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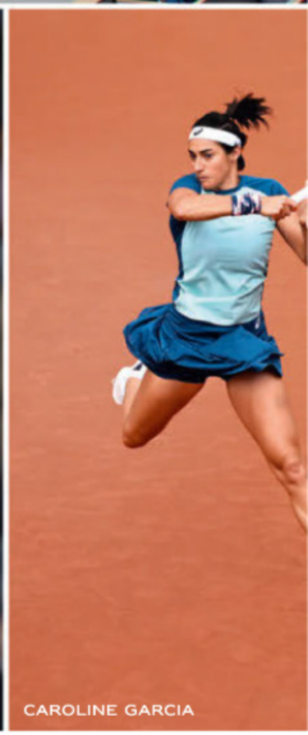
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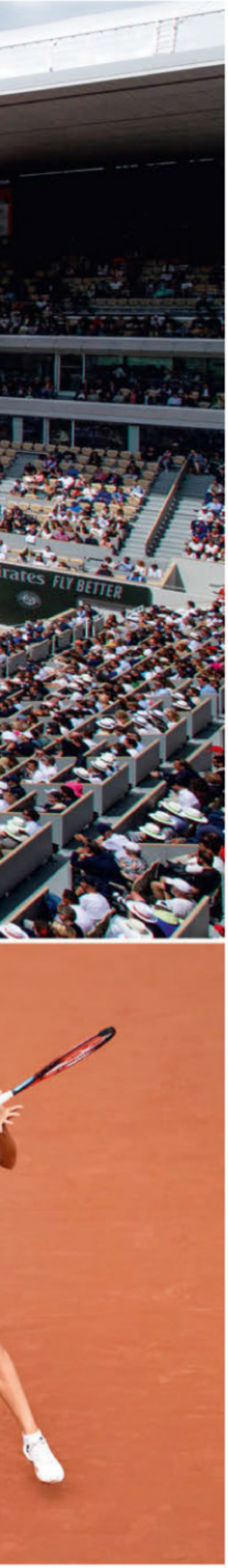
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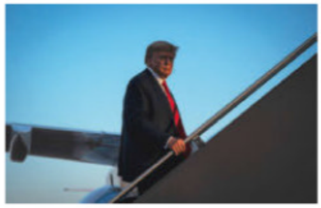
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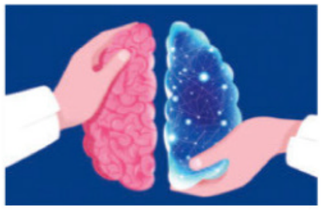
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Ron DeSantis launched his campaign for the Republican presidential nomination. The governor of Florida made his announcement in an audio conversation with Elon Musk on Twitter, though the event was marred by technical glitches for the first 20 minutes. Mr DeSantis said he would revitalise America and criticised Joe Biden for being woke; as governor Mr DeSantis has made a point of clashing with the left on gay issues and identity politics. He didn't mention Donald Trump, who holds a big lead in the Republican race at this early stage.

Swimming with the current

Seven states in the American west reached an agreement to protect the sustainability of the **Colorado river**, which provides water and electricity to 40m people. Described as "historic" by the White House, the deal will see Arizona, California and Nevada reduce their intake of water from the Colorado river system.

America signed a security pact with **Papua New Guinea**, a deal that seeks to counter the rise of Chinese influence in the Pacific. The prime minister of PNG, James Marape, tried to reassure domestic critics that America would not be allowed to launch "offensive military operations" from his country. The pact was signed at the US Pacific Islands Forum. Joe Biden had to miss the event, as he continued haggling with Republicans in Washington over the federal-debt ceiling.

In separate negotiations America signed agreements with **Micronesia** to expand economic assistance to the Pacific island nation. The State Department said the deal would "support freedom, security, and prosperity in the Indo-Pacific".

The opposition won a general election in **East Timor**. According to preliminary results the National Congress for Timorese Reconstruction took 42% of the vote, increasing the chances that Xanana Gusmão, its leader and a war hero during the country's resistance to Indonesian rule, will return as prime minister. The legislature makes that appointment.

It emerged that Alejandro Encinas, a **Mexican** official close to President Andrés Manuel López Obrador, had his phone hacked by Pegasus, a type of spyware. Pegasus has been deployed in Mexico before, but Mr López Obrador had said he would stop its use. Yet the armed forces continue to spy on human-rights campaigners. Mr Encinas was hacked last year while investigating the armed forces' role in the disappearance of 43 students in 2014.

An internationally monitored ceasefire in **Sudan**, due to last a week, lessened the intensity of the civil war, though violence persisted here and there. The UN said that 60,000-90,000 people had fled into Chad from Sudan's western region of Darfur, where fighting has been especially fierce.

The secretary-general of the ruling African National Congress said that **South Africa** risks becoming a "failed state", causing business leaders to lament the state of the economy more forcefully than ever.

The trial of Ousmane Sonko, a **Senegalese** opposition leader accused of rape, resumed. He was absent, denouncing the trial as politically motivated. If found guilty, he would almost certainly be ruled out of running in the presidential election due next February.

Over a hundred green-minded members of the European Parliament and the American Congress called for the designation of Sultan al-Jaberas as head of the coming COP28 climate conference in the **United Arab Emirates** to be rejected. He is CEO of the Abu Dhabi National Oil Company.

Net migration exceeded 600,000 in **Britain** last year, a record figure. The number was boosted in part by arrivals from Ukraine and Hong Kong. The news is a big embarrassment for the Conservative government, which for years has been promising to reduce migration.

Sinn Féin, the main republican party in **Northern Ireland**, claimed victory in local elections, and now has the most council seats. Michelle O'Neill, Sinn Féin's provincial leader, called on the Democratic Unionists to return to the Stormont Assembly, so that the power-sharing executive can start again. Stormont has been suspended for over a year.

The **G7 held a summit in Hiroshima**, which was dominated by a collective effort on how to tackle China and Russia. The forum criticised China over Taiwan, nuclear arms, human-rights violations and economic coercion. It adopted a strategy of "de-risking" the West's trade and financial links with China. Chinese media denounced the meeting as an "anti-China workshop".



Volodymyr Zelensky attended the G7 summit to discuss his plan to end the war in **Ukraine**, which includes a demand that Russia restore Ukraine's territorial integrity. The G7 announced new sanctions on Russia, notably on its diamond business, and said it would support Ukraine for "as long as it takes". America reversed its position, and will now support a plan to train Ukrainian pilots to fly **F-16 fighter jets**, but it has not yet decided whether to send F-16s directly to Ukraine.

Russia claimed to have repelled an attack on its **Belgorod** region that came from across the Ukrainian border. It was the biggest incursion into Russian territory since the start of the war. Russia blamed Ukrainian "militants". Ukraine said the fighters belonged to pro-Ukrainian Russian groups that want to topple Vladimir Putin as president. Responding to Russia's assertion that it destroyed American-made weapons in the skirmish, the State Department said "it is up to Ukraine to decide how to conduct this war."

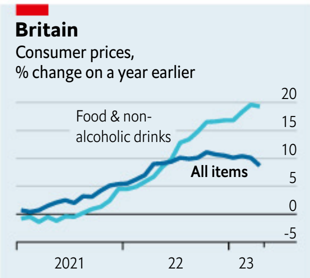
Greek revival period

The centre-right governing New Democracy party was the biggest winner in the **Greek general election**. It took 41% of the vote, double that of its closest rival, the left-wing Syriza party. But New Democracy fell just short of gaining an outright majority of seats. Rather than form a coalition, Kyriakos Mitsotakis, the prime minister, wants to hold another round of voting, probably on June 25th.

At least 75,000 people attended a rally in **Moldova** calling for the country to join the European Union. It was organised by the government, which again accused Russia of meddling in its affairs.

Belarus's dictator, Alexander Lukashenko, popped up on state TV to scotch rumours that he is dying. Speculation mounted that he is seriously ill after he appeared in poor health at Russia's Victory Day parade. Unfortunately for the people of Belarus, Mr Lukashenko is seen telling officials, "You'll have to struggle with me for a very long time."

The world this week Business



Source: Office for National Statistics

Britain's headline rate of annual **inflation** fell sharply in April, to 8.7%. But the fall was less than expected, given that last April's rise in energy prices dropped out of the annual comparison. The core rate of inflation, stripping out energy and food, rose again to 6.8%; food prices were up by 19.1%. The yield on British government bonds jumped as markets bet that interest rates would increase further. Earlier, Andrew Bailey, the governor of the Bank of England, admitted that there are "big lessons to learn" from the failure of the bank's economic models to predict the persistence of high inflation.

An updated estimate of **Germany's GDP** in the first quarter showed the economy shrinking by 0.3% over the previous three months. That means that Germany is technically in a recession, as the economy contracted by 0.5% in the fourth quarter of 2022.

The European Union slapped a €1.2bn ($1.3bn) fine on **Meta**, the owner of Facebook, for breaching rules on the transfer of personal data from the EU to America. It is the biggest penalty imposed by the EU on a company for privacy violations. The decision gives Meta six months to stop processing data in America that it holds on EU citizens. Meta described the actions as "unjustified" and said it would appeal against the fine.

China banned memory chips made by **Micron**, an American company, from being used in the country's infrastructure development, a tit-for-tat move in response to America's prohibition on Chinese technology. China claimed Micron's chips "posed significant security risks". America has reportedly asked South Korea to dissuade Samsung and SK Hynix, which make similar chips to Micron, from filling the gap in the Chinese market that will be left by Micron's absence.

TikTok filed a lawsuit against Montana for its decision to ban the social-media app, the first statewide prohibition of TikTok in America. The Chinese firm argues that the ban is unconstitutional, and that Montana's claim that TikTok shares data with the Chinese government is based on "unfounded speculation".

Apple announced an agreement in which **Broadcom**, a big American maker of semiconductors, will supply 5G components for the iPhone. Sensitive to claims that it relies on China for the assembly of its devices, Tim Cook, Apple's chief executive, said that all "of Apple's products depend on technology engineered and built here" in the United States.

China overtook Japan as the world's **biggest exporter of cars** in the first quarter, mostly because of its expanding production of electric vehicles. China exported more than 1m vehicles in total during the three months, compared with Japan's 950,000.

Lady Luck smiles again

There was more evidence that **Macau's gambling industry** is on the rebound from covid and a crackdown on betting by the authorities. Galaxy Entertainment, which owns hotels and casinos in the Chinese territory, said its net revenues were 72% higher in the first quarter than a year earlier. Other resort operators have reported similar results. Macau's casinos are now focused on catering to ordinary punters, rather than the high rollers who attracted the ire of officials.

Citigroup abandoned plans to find a buyer for **Banamex**, a bank chain in Mexico that it bought in 2001, and will instead spin off the business in an IPO, probably in 2025.

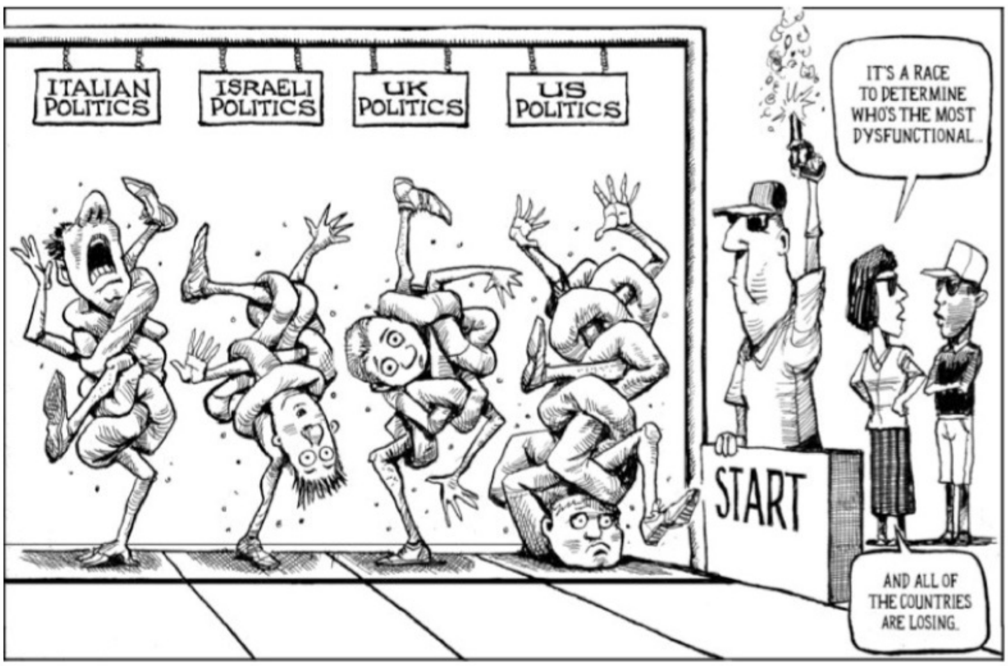
Shell's annual general meeting was seriously disrupted by climate-change protesters. Led by green investors, 20% of the shareholders present rejected the company's energy-transition plan, claiming its timetable for reducing fossil-fuel production is too slow.

Facing what it described as "volatile circumstances", **Target** removed some products related to LGBT pride from its stores. The retailer said that in some cases customers have confronted staff over the merchandise. The pride range includes books aimed at young children with titles such as "I'm Not a Girl" and "The Pronoun Book".

Virgin Orbit was wound down, less than two months after filing for bankruptcy protection. A sale of the rocket-launch company's assets fetched just $36m, around 1% of the $3.7bn it was valued at when it floated on the Nasdaq stock exchange in 2021.

The terminator

Netflix began its long-trailed crackdown on sharing passwords. The streaming giant sent emails to subscribers in 100 countries reminding them that only one household can watch Netflix on a single account. Viewers will get prompts when they tune in; those who share passwords outside the household will be booted off. The decision to get tough now has nothing to do with the company's PR naming Arnold Schwarzenegger as a new "chief action officer".



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1. Circular economy as defined by Ellen MacArthur Foundation. (2022). ***Circular Economy Introduction.*** Source: ellenmacarthurfoundation.org.
2. Marsh, J. (2021, May 3). ***Food Packaging Waste Statistics: Understanding the Rise of Food Packaging Waste.*** Source: Environment.co.

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How to fix the NHS

Money will help. But a radical shift in focus is more important

BRITONS ARE prouder of their health-care system than they are of the monarchy. But when the English National Health Service (NHS) turns 75 in July, the mood will not be celebratory. Hospital waiting lists in England spiral beyond 7m, forcing many to wait months or even years for treatment. Almost 300,000 adults are waiting for a social-care assessment. A record 2.5m Britons are out of work because they are sick. NHS staff are leaving the workforce in droves. On basic measures of health, Britain suffers by comparison with its rich-world peers. Its people barely live any longer than they did a decade ago, and have some of the worst survival rates for diseases such as cancer. During the pandemic the public clapped for the NHS. Now they are more likely to throw up their hands in frustration.

When something is broken, the boldest reforms can often seem the most tempting. Some want to overhaul the NHS's funding model, switching from a system funded by taxation to one based on social insurance, as in France or Germany. Others mull the case for much wider use of means-tested charges. But Britons will not easily ditch what Nigel Lawson, a former chancellor, once called their "national religion" of health care funded by taxes and free at the point of use. And the country's recent record of revolutionary change does not inspire confidence.

It is also unnecessary (see Britain section). The recipe for saving the NHS requires radicalism, but of a simpler sort: turning the NHS from what it has become—a sickness service—into what its name promises—a health service. That will mean spending more money. But to spend it productively requires a shift in focus: away from hospitals to the community, from treatment to prevention, from incentivising inputs to encouraging better outcomes.



Health already absorbs the biggest single chunk of government spending. Of every pound the state spends on public services, 38p goes on the NHS. But Britain spends less on health care than countries like France and Germany as a share of GDP. It especially skimps on capital spending: no OECD country invests less on a per-person basis. And the demands on the health service are only going to go up. In the next 25 years the number of Britons aged 85 and older is set to double. The NHS is the largest single employer in Europe; the phenomenon of "cost disease" means that the pay of nurses and doctors needs to keep rising to compete with wages elsewhere in the labour market.

The critical question is where the money is spent. At the moment, the answer to that question can be boiled down to one word: hospitals. Spending on public health (covid-19 prevention aside) and social care has fallen in real terms over the past decade. The share of total NHS spending allocated to primary and community care was falling even before the pandemic; the share doled out to hospitals had risen to almost two-thirds. As a share of GDP spent by rich-world governments and compulsory insurance schemes, only America spends more on hospitals.

This makes no sense. A system focused on hospitals is one designed to treat people only after they have become really sick. That is the equivalent of buying more fire extinguishers while dismantling the smoke alarms. The majority of health and social-care spending now goes on treating long-term conditions like diabetes, high blood pressure and arthritis. Such conditions are managed best by patients themselves, in their own homes and with the support of networks of general practitioners and local specialists. The share of money going to primary care should be restored from 8% of the NHS budget to the 11% proportion it was two decades ago. Social care needs more money, too, and a proper long-term funding plan.

The corollary of moving care out of hospitals and into communities is to focus on prevention: keeping people healthy for as long as possible. That means widening the lens on health care. For all the headlines it grabs, medical care contributes comparatively little to the state of the nation's health: socio-economic factors, genetics and individual behaviour matter more. One obvious example is obesity. Britain is the third-fattest country in Europe; an obese patient costs the NHS twice as much to treat as one who is not. The government needs a more muscular strategy to tackle this problem before it turns up in waiting rooms and hospital beds, for example by making effective use of promising new anti-obesity drugs.

The way that the NHS measures and motivates performance also needs to change. At the moment the system is geared towards inputs. Politicians conventionally compete to make promises about the number of new hospitals or the ranks of new doctors. Top-down metrics based on "activity" encourage hospitals to spend billions on unnecessary and unwanted treatments towards the end of life. Funding should be relentlessly focused on health outcomes; to encourage innovation, money saved by making people healthier should be made available to regional bodies to reinvest.

Will any of these changes ever actually happen? The good news is that these ideas are neither new nor even particularly controversial: just this week Sir Keir Starmer, the leader of the Labour Party, laid out in a speech the need to shift focus from acute care to chronic care. The establishment in England of "integrated care systems", a set of 42 regional partnerships between NHS providers and local bodies, paves the way for a more decentralised approach to health provision. The covid-19 pandemic vividly demonstrated the power of data and technology to reach people quicker, from carefully targeted vaccination campaigns to online consultations.

Faith healing

But this refocusing of effort does require a radical shift in mindset, from politicians above all. Care workers and insulin pumps are less sexy during election campaigns than heart surgeons and new hospitals. No crisis is more urgent for a politician to fix than one involving desperately ill people waiting for ambulances to arrive—one reason why technology and capital budgets are raided to cope with each new winter crisis. The NHS can be saved. But only if the people who run it see their job as keeping Britons healthy at home rather than treating them on the wards. ■

America's presidential race

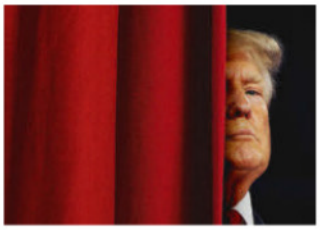
Seriously? Yes

Donald Trump's chances of a comeback are uncomfortably high

A GLITCH-PLAGUED chat with Elon Musk, live on Twitter, is an unconventional way to launch a presidential campaign. But with the entry of Florida's governor, Ron DeSantis (see Lexington), the race for the Republican nomination is now properly under way. The first states will not vote until January. Primaries are hard to predict, because it is expensive to conduct enough high-quality polls of primary voters in the key states. But, with that disclaimer over, one candidate has a huge, perhaps insurmountable, lead: Donald Trump. Mr Trump thus has a real chance of becoming America's next president. Betting markets put his odds of returning to the White House at one in three.

If you decided to pay less attention to Mr Trump after he lost in 2020, to preserve your sanity, you may be wondering how this can be the case. Parties do not usually stick with losers. Mr Trump led the Republicans to defeats in the 2018 midterm and the 2020 presidential elections. After he encouraged his supporters to "stop the steal", some of them broke into Congress, with the result that one police officer died of a stroke and four committed suicide. He has since been found liable for sexual assault, too. Would the Republican Party really nominate him again?

Yes, it probably would. In 2016 and in 2020 it made some sense to think of the Trump movement as a hostile takeover of the party. In 2023 it no longer does. He is the front-runner because a large proportion of Republicans really like him. His supporters have had their hands on the Republican National Committee for six years now. More than half of Republicans in the House of Representatives were elected for the first time since 2016, and therefore under Mr Trump's banner. Almost all of those House and Senate Republicans who refused to make their peace with him have stood down or retired. Of the ten House members who voted to impeach Mr Trump in January 2021, only two are still there. They are outnumbered in their own caucus by more than 100 to 1.



Mr Trump's campaign is also better organised than in either 2016 or 2020. Our analysis of the primaries shows how hard he will be to beat (see Briefing). He has a stunning lead: polling for *The Economist* by YouGov suggests Republican primary voters prefer Mr Trump to Mr DeSantis by 33 percentage points. He also has a big lead in endorsements from elected Republicans, which are usually a good predictor of what will happen. In 2016, the last time Mr Trump contested a primary, he won the early primaries with much less support than he has now.

There are still Republican voters who would like an alternative—his 58% poll share means that close to half of primary voters must be open to choosing someone else. Yet the difficulties of co-ordinating the opposition to Mr Trump are daunting. People close to the Trump campaign say privately that the more candidates who enter the primary, dividing the field, the better for their candidate. Some big donors are giving money to non-Trump candidates on the condition that they drop out after South Carolina, an early primary, if told to do so. The idea is to engineer unity around a single non-Trump candidate, just as establishment Democrats united around Joe Biden in 2020 to stop Bernie Sanders, a leftist. Backroom manoeuvring by party bigwigs is less likely to work against Mr Trump, however, for the simple reason that he is the Republican establishment.

The way the primary calendar and pending legal cases against Mr Trump intersect is nightmarish. His trial for falsifying records in New York will get under way shortly after Super Tuesday, when more than a dozen states vote (see United States section). Neither this case nor any of the other investigations he faces are likely to be resolved by the time the primaries are over. It is therefore possible that the candidate of one of the two great parties could be subject to criminal charges when he is on the ballot. America has had badly behaved presidents before. It has never had one who is also the defendant in a criminal trial.

You might think that, at this point, voters would abandon Mr Trump in large numbers. Maybe. But when, earlier this year, a jury found that he had sexually abused a woman 30 years ago, the verdict had no measurable effect on his poll numbers. Mr Trump, it turns out, is adept at persuading Republican voters that he is the real victim. Democrats, and plenty of America's allies, think Mr Trump is a threat to democracy (as does this newspaper). His campaign is already turning this accusation back on the accuser: "The 2024 election", a recent Trump campaign email announced, "will determine whether we can keep our Republic or whether America has succumbed to the dark forces of tyranny." Those who accept that these are the stakes will probably overlook Mr Trump's innumerable and obvious flaws.

Imagine, then, that it is November 2024 and Mr Trump and President Biden are having a rematch—the first since Dwight Eisenhower beat Adlai Stevenson back in the 1950s. Could Mr Trump win?

The general election will surely be close. The electoral college gives Republicans a slight edge. The most recent landslide was 40 years ago. America has since become evenly divided politically and calcified because voters seldom switch sides. Mr Biden has some under-appreciated strengths, but he is no one's idea of formidable. Were the country to enter a recession, Mr Trump's chances would go up. Some mooted post-primary tactics intended to stop him, such as running a third-party candidate, smack of desperation: they could easily backfire and boost him further.

Prima Donald

All of which means that you should take seriously the possibility that America's next president will be someone who would divide the West and delight Vladimir Putin; who accepts the results of elections only if he wins; who calls the thugs who broke into the Capitol on January 6th 2021 martyrs and wants to pardon them; who has proposed defaulting on the national debt to spite Mr Biden; and who is under multiple investigations for breaking criminal law, to add to his civil-law rap sheet for sexual assault. Anyone who cares about America, about democracy, about conservatism or about decency should hope that Mr DeSantis or one of the other non-Trump Republican candidates can defy the odds and beat him. ■

Greece's election

Carry on Kyriakos

The Greek prime minister deserves his unexpected triumph

THERE IS BEATING your political opponent, there is trouncing him, and then there is what Kyriakos Mitsotakis, Greece's prime minister, did on May 21st to Alexis Tsipras, the leader of the radical-left Syriza party. Syriza ran the country from 2015 to 2019, a time when Greece came close to defaulting on its debts, crashing out of the euro and threatening the stability of the entire euro zone. Mr Mitsotakis then took over. Now Greek voters have decided, by a whopping margin, that they prefer stability and technocratic competence to drama.

Mr Mitsotakis picked up 41% of the vote to Syriza's 20%, a stunning result, especially given that pollsters had predicted only a six- or seven-point gap. Mr Tsipras's future, and that of his party, are now in doubt. Yanis Varoufakis, the shaven-headed, leather-jacketed finance minister who propelled Syriza down the path of confrontation with Brussels but then quit and formed his own splinter party, is out of parliament. Mr Mitsotakis fell a few seats short of an overall majority. But he says he has no interest in forming a coalition; and no one else can. So a second election will be held, probably on June 25th; an interim prime minister will hold the reins until then. Mr Mitsotakis is sure to be back, because the next election will be held under a new electoral system that will reward the largest party, presumably his right-of-centre New Democracy, with up to 50 bonus seats, out of a parliamentary total of 300.



Mr Mitsotakis has earned it. Over the past four years he has governed, for the most part, with energy and skill. The economy has bounced back better than most from the disasters of covid-19 and the energy-price shock; its growth rate last year was around twice the euro-zone average, and is forecast to exceed it comfortably this year too.

Greece's sovereign debt now trades at investment-grade interest rates; the spread between what it must pay on its ten-year bond and what Germany pays is only 1.4 percentage points. During the crisis of 2015, it hit a terrifying 18.7 percentage points. The unemployment rate is still too high, at nearly 11%, but annual inflation is back down at only 3%. Greece, in short, has become a normal country, not a worry. Away from the economy, Mr Mitsotakis has done a reasonable job of managing tensions with Turkey, helped by his swift dispatch of aid to the earthquake-devastated Turkish south-east in February.

That is not to say that things are perfect. Mr Mitsotakis has three big blots on his record and, assuming he gets his second term, he will need to deal with them. The first is a nasty scandal involving the phone-tapping, actual and attempted, of dozens of politicians, journalists and businesspeople by the security services. Mr Mitsotakis's government has yet to come clean about exactly what happened; until a lot more is disclosed, trust in his administration will remain badly dented. The second is persistent reports of Greek border guards beating up and robbing migrants trying to enter from Turkey: something that may not much bother Mr Mitsotakis's more nationalist-minded supporters, but ought to bother him.

And finally, far more needs to be done to reform Greece's sclerotic and sometimes corrupt public services. The shortcomings of the state were demonstrated in February by a train crash which took 57 lives and revealed a litany of duff equipment and shoddy working practices. It was the result of decades of mismanagement, but it sent Mr Mitsotakis's polls reeling (they recovered in time for the election, which he put back by more than a month). The mission of modernising Greek government has a long way to go—and Mr Mitsotakis will have his work cut out in a second term. But he clearly deserves one. ■

The end of the peace dividend

Paying for a new arms race

How to get a better bang for every billion bucks

THE WORLD is tooling up. The peace dividend it has enjoyed since the end of the cold war—releasing wads of cash from defence to spend on other things—is ending. Now comes the new "war tax". Our simulations suggest global defence spending may rise by $200bn-$700bn a year, or 9-32% (see International section). Blame fraught geopolitics—especially Russia's invasion of Ukraine and China's sabre-rattling at Taiwan.

America and China are locked in a race for military ascendancy in Asia. European countries are scrambling to meet NATO's target of spending 2% of GDP on defence. Poland is aiming for 4% and wants to double its armed forces. Japan's defence budget will rise by at least two-thirds by 2027, which may make it the world's third-largest spender. Australia is developing pricey nuclear-powered submarines with America and Britain.

Yet for Western governments, finding money for arms will not be easy. They must pay interest on debts and cope with fiscal pressures that did not exist in the 1980s, such as the need to care for ageing populations and curb climate change. Furthermore, as in the cold-war era, there is a risk that cash is blown on good-but-exorbitant equipment, thanks to red tape and cronyism. How to get the best value from defence spending in the 2020s?

The war in Ukraine offers some pointers. The first priority for Western governments is to restock depleted arsenals and boost the factories that make shells and missiles. War eats up vast amounts of ammunition. Ukraine has been firing roughly as many 155mm artillery shells in a month as America can produce ▸▸

in a year. In a war with China over Taiwan, America could run out of vital anti-ship missiles within days. Increasing output requires certainty for industry, in the form of multi-year contracts, and much work to find and clear production bottlenecks.

Next, governments should shake up procurement processes and disrupt the cosy structure of the defence industry. Western weapons have shown their value in Ukraine, and the war ought to be a "battle lab" for new ideas. Yet procurement is still woefully slow and costly. New entrants, notably dynamic tech firms, could end the oligopoly of the big contractors.

SpaceX, a satellite firm, has broken the hold of big, stodgy rivals and slashed the cost of putting objects into orbit. Its Starlink constellation of communication satellites has proved invaluable to Ukrainian forces. More Silicon Valley firms are helping with the fusion and analysis of data to create a "kill web": a network of scattered "sensors" and "shooters" that is more powerful than any single weapon. Governments should welcome the flow of venture capital into experimental defence startups, and accept that some failures are inevitable.

Finally, Western countries need to create more of a single market for defence that boosts economies of scale and competition. Common standards, which NATO can help set, are one part of this. With its tutti-frutti arsenal of donated weapons, Ukraine knows all about the incompatibilities of Western kit: British tanks have rifled guns, so they cannot fire ammunition made for smooth-bored German and American ones. American tanks run on petrol; European ones on diesel. Given the growing importance of data in weaponry, open-architecture software that allows kit to "plug and play" should be helpful.

Creating an integrated market also means resisting protectionism. Europe got into a needless twist—and wasted time—over French attempts to exclude non-European firms from the EU's scheme to deliver 1m artillery shells to Ukraine in a year. Even mighty America could benefit from more co-operation. It has one supplier of rocket motors for many missiles; buying from trusted allies would make its supply chains more resilient. In an unruly world, liberal democracies must figure out how to bolster their security despite other pressing demands on the public purse. The best way is to embrace innovation, and ruthlessly pursue efficiency and scale. ■

Investor activism

Seize the day (and the board)

Why activist investors are needed more than ever

Little scares the C-suite like shareholder activism. Bosses stay awake worrying about a call, a letter or a 100-page presentation in which a hedge fund outlines the depths of their ineptitude. At the start of the year executives were especially on edge. During this year's annual "proxy season"—a succession of shareholder meetings—they have mostly avoided votes on dissident nominees to their boards. Nevertheless in recent months some of the world's largest firms—including Alphabet, Bayer, Disney and Salesforce—have had to tussle with activists, who are increasingly focused on the biggest companies. On May 25th, as we published this article, the battle between Carl Icahn, a prominent activist, and Illumina, a genomics giant, was set to come to a head (see Business section).

Activist hedge funds are often seen as villains who are nasty, brutish and focused on the short term. Sometimes the shoe fits. But more often activists are playing a role that is essential for shareholder capitalism. For several reasons, their campaigns are increasingly important.



One is the rise of passive investing, which attempts to replicate the returns of an index rather than surpass them. Only one in three dollars invested by institutions in America's thousand largest public companies is actively allocated, according to Man Group, an investment firm. The biggest passive asset-managers, such as BlackRock, charge low fees and run lean investment-stewardship teams which are not designed to spot empire-building bosses or lazy boards. The result is an increasingly idle corporate electorate. Efforts to enfranchise the ultimate owners of funds are unlikely to solve the problem. They typically want to earn returns but leave the decision-making to somebody else.

There are other channels by which bosses' feet might be held to the fire. Since the 1980s leveraged buy-outs by private-equity firms have been a persistent threat to underperforming executives. The best way to deter a hostile takeover is to raise your company's share price. Today, however, the buy-out industry is roiling from the effects of higher interest rates, and is unlikely to recover fully for some time.

While the routes by which managers are held to account have shrunk, the need to boost profits by applying discipline has grown. When interest rates were low, large technology firms hired aggressively and expanded into peripheral lines of business. Now profits are more important than growth. Over the past decade the demand for managers to respond to environmental, social and governance (ESG) concerns has also grown. Some shareholders campaign for ESG—as is their right—but the danger of firms losing focus and wasting money as they are drawn into politics has increased.

In such an environment the presence of activists is a welcome reminder that it is owners, not managers, in whose interest firms should be run. And because dealmaking is down, activists will be more likely to improve a firm's operations than force it to sell itself in search of a quick buck. That should assuage the fears of those who see activists as corporate cowboys rather than drivers of efficiency.

Get out the vote

Fortunately, the job of activists is getting easier. New rules that came into force in America last September should make it simpler for them to obtain board seats by letting shareholders vote for candidates individually, rather than as a bloc. The wave of nail-biting shareholder votes some expected to follow immediately has not yet materialised. But more battles between activists and complacent managers would be no bad thing. ■

Executive Managing Director

Montpellier, France **Industry Relevant Compensation Package**

CGIAR is the world's largest, publicly funded agrifood systems -focused research organization, with more than 9,000 staff in 89 countries. For more than 50 years, CGIAR has worked with partners to deliver impacts that have lifted hundreds of millions of people out of hunger and poverty and supported low-income producers and consumers across the global South.

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The successful candidate will:

- have a proven track-record and expertise in CGIAR's sectors of interest;
- be a strategic manager and operator, an innovative thinker able to serve as an agent of change;
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This is a unique opportunity to help shape and lead an innovative, dynamic intergovernmental organization and global research partnership working for a food and-nutrition secure future.

CGIAR

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Interested candidates should submit a full resume with a letter of interest to **CGIAR-EMD@spencerstuart.com**
The closing date for applications is **Friday 2 June 2023 at 1700 CET**



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Promoting local aid

As you noted, risk aversion and bureaucracy get in the way of the American government effectively supporting locally led development and emergency relief ("The effort to transform the aid business", May 6th). The same is true for most other government donors, UN agencies and international NGOs. After the earthquake in Syria and Turkey, just as on the front lines in Ukraine and in remote parts of Myanmar, local volunteer networks stayed and delivered life-saving help, whereas international agencies withdrew or never ventured.

Sadly, the standard operating model has often been to sideline local agencies rather than reinforce them, or to sub-contract them into projects that do not adequately cover their overheads, or to poach their staff. Some aid agencies are taking a more responsible approach. The American government's aid-reform agenda is already challenging other donors and big aid agencies to move from lip service on localisation towards more practical action.

Donors hold the purse-strings. For meaningful change, we need to see them shift funding to local leadership. Over the past decade the aid industry scaled up cash assistance as a more effective and dignified way to help people in times of crisis than food aid. The mantra was: "Why not cash?" Likewise, donors should be asking themselves and the partners they fund in every context: "Why not local?"

HOWARD MOLLETT
Head of humanitarian policy
CAFOD
London

Your proposal to shift towards localisation in aid is commendable but naive. The staff of governments in host countries like Cambodia, Haiti, Jordan and Nigeria receive risible salaries that must be supplemented in order for them to gain a living wage. If large grants were disbursed to local agencies we could expect these government staff to seek "rents" from the agencies, and that the agencies, which depend on the government staff for licences to operate, will not be able to say no.

In my 15 years working with USAID I have seen this scenario repeated countless times. Local agencies operate at the pleasure of the host government. International NGOs are somewhat insulated from similar pressures.

THOMAS D'AGNES
Kailua, Hawaii

The factors behind inflation

"Capital v labour" (May 6th) set up a straw-man argument about capital's responsibility for the surge in inflation. Corporate mark-ups have been rising in America since the early 1980s, but are not necessarily reflected in capital's share of GDP. A growing body of economics research shows that capital share need not rise when labour share falls, and that the share of "factorless income" has been growing even as both labour and capital share have fallen.

Much of this is explained by the growth of intangible capital, such as algorithms, but also by increased fixed costs, which for many firms includes the compensation to managers accounted for as part of sales and general administration costs. The data show that over the past four decades, after-tax corporate profits in America have generally risen as a share of gross national income, falling in recessionary years, then rising again as the economy recovers. In the first year of the pandemic, their share shot up from 7.2% of national income to 8.4%.

Median wages have risen since mid-2014 and spiked ▸▸



briefly during the pandemic, but they have since settled back to their pre-pandemic levels. Although we cannot ascribe the recent inflation to either higher capital or labour shares, these are neither necessarily inversely linked, nor the main reason for soaring income gains at the top. But there is no question that the share of corporate profits in national income has been increasing.

THOMAS REMINGTON
Visiting professor of government
Harvard University
Cambridge, Massachusetts

Royal charities

"Crowning story" (May 6th) could have mentioned some of the charities founded by Britain's royal family. The Prince's Trust has helped over 1m young people into employment. The Queen's Green Canopy has planted more than 1m trees. The Duke of Edinburgh's Award sees over 300,000 young people volunteer each year, and as was the case with this reader, can inspire a lifelong commitment to volunteering. There is also the Earthshot Prize, the Royal Foundation and Heads Together. The royal family fills an unfashionable gap engaging with communities that politicians can't be bothered with and celebrities can't bear to be seen with. Royal factory visits are not to be sniffed at. If the media gave more focus to these endeavours it would change many more lives for the better.

GAYATHRI FERNANDO
London

Taking the high road

Walking is a British thing, says Lexington (May 6th). One name missing from his list of famous walkers is Ben Jonson, an English poet and playwright and friend of William Shakespeare. Jonson set out on his 400-mile "foot voyage" from London to Edinburgh in July 1618. Despite the fact that he was 46 at the time and seriously overweight, he had a marvellous time en route being treated like the celebrity he was, and feted and housed by William Drummond of Hawthornden, his wealthy Scottish fan and fellow poet.

JAMES HUNTER
Toronto

Divine organisms

Your review of Jonathan Kennedy's book on bacteria says that he puts germs at the centre of human history ("Bugs in the system", April 15th). Mark Twain went a step further. In "Letters from the Earth", Twain claimed that microbes are God's favourite creatures: "The microbes were by far the most important part of the Ark's cargo and the part the Creator was most anxious about and most infatuated with…The large intestine was in effect their heaven."

Elsewhere, Twain solved the age-old conundrum of theodicy, or why a benevolent God allows evil to exist. He said we falsely assume God is like us and that we are his favourites. Twain concluded that, based on which species thrive the best, God clearly must be a microbe.

RICHARD WAUGAMAN
Washington, DC

Her salad days are over

Bagehot is right (May 20th). Britain really "would rather forget about Liz Truss". She just won't lettuce.

JONATHAN ASPIN
St Christophe en Brionnais, France

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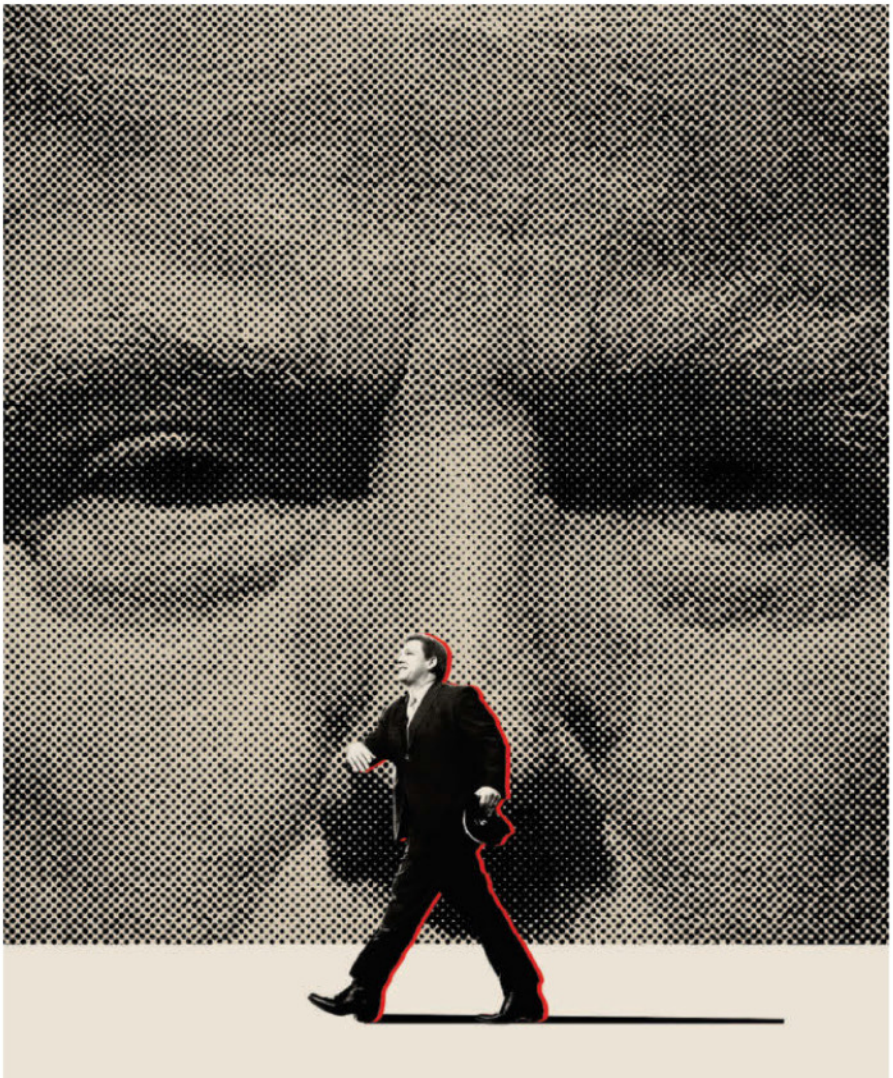


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A bungled coup

WASHINGTON, DC

Ron DeSantis has little chance of beating Donald Trump to his party's nomination

BELATEDLY AND nervously, the would-be assassins have been lining up. On May 22nd Tim Scott, a senator from South Carolina, became the latest Republican to announce a run for president. Greater fanfare accompanied the official declaration (on Twitter) on May 24th that Ron DeSantis, the governor of Florida, is joining the race for the Republican nomination. He has been widely heralded as the candidate with the best chance of defeating the favourite, Donald Trump. But even as more plotters step forward, the chances of a successful coup to overthrow Mr Trump are growing slimmer by the day.

Just a short while ago Mr DeSantis seemed successfully to have engineered a form of Trumpism without Trump. In November he won re-election in Florida by a resplendent 19-point margin. In damning contrast, Mr Trump's attempts to play kingmaker in the midterm elections went disastrously wrong, with many of the candidates he endorsed losing races that the Republican Party had considered in the bag. Mr Trump appeared suitably deflated when he launched his presidential campaign on November 15th at Mar-a-Lago, his estate in Palm Beach, Florida. Back then some opinion polls put the two candidates neck-and-neck among primary voters.

Six months later it is Mr DeSantis who has been stumbling. He has been criticised as an isolationist for dismissing the war in Ukraine as a mere "territorial dispute", as an anti-corporatist for picking fights with Disney and as an extremist for signing a ban on abortion beyond six weeks of pregnancy. Mr Trump, meanwhile, has recovered his step, making a triumphant return to the campaign trail. He and his team have spent months pummelling Mr DeSantis. In retrospect, the governor's decision to wait until Florida's legislature had completed its annual session earlier this month before announcing his candidacy looks like a miscalculation, although the delay was in part to allow lawmakers to pass a bill permitting him to run for president without resigning as governor. During the long interlude he has endured a protracted beating on the airwaves without offering much defence. It is as if Brutus had overslept on the Ides of March, giving Julius Caesar a chance to put on his armour, but had tried to proceed with his hit job all the same. The plot to overthrow Mr Trump, which once seemed plausible, now looks forlorn.

Lend me your cheers

In 2016 Mr Trump ran as an insurgent. In 2020 he ran as the incumbent. For 2024, he is running as a hybrid of the two—insurrectionist and institutionalist all at once. It is proving to be a potent combination, which has helped to build a huge lead in the early polling. Among likely voters in the primary, Mr Trump retains the stature of a former president, but is also seen as the put-upon underdog, owing to his claims that the election of 2020 was stolen, his bans from social media and his many legal troubles (see United States section). Early stumbles, such as his lacklustre campaign launch and an embarrassing dinner with a white supremacist, have been righted by a new campaign operation that is more professional than the chaotic family affairs of Mr Trump's past runs.

What is more, the Republican Party has been thoroughly Trumpified. This is especially true at the state level, where most of the rules for primaries are set. Unlike 2016, when the party establishment shunned Mr Trump, today he dominates the race for elite endorsements. Many big donors have defected to alternatives such as Mr DeSantis, but this is not as damaging as it sounds. Mr Trump will have no trouble raising money from his army of small-dollar donors and will again be able to portray himself as the authentic tribune of the people, assailed by the henchmen of the out-of-touch elite. Among the Republican base, he has universal name recognition and near-universal admiration.

This reverence for Mr Trump makes it ▸▸

difficult for his competitors to attack him. Most of them come not to bury Trumpism, but to praise it. But the resulting muddle blunts their appeal. Jason Miller, a spokesman for the Trump campaign, puts it this way, "Why would you go to see a Rolling Stones tribute band, when the Rolling Stones themselves are still on tour?"

Are the primaries over before they have begun? Some think so. "Hope is not a strategy," says Rick Wilson, a former Republican operative who now runs the Lincoln Project, an anyone-but-Trump outfit. He thinks Mr Trump would have to be incapacitated to lose. "Donald Trump will start taking DeSantis's head off in debates and kicking it around like a soccer ball. And the Republican base voters want that show," he says. Ask closeted anti-Trump Republicans around Washington how the primary will go, and many conjure scenes of brutality worthy of the Gallic wars.

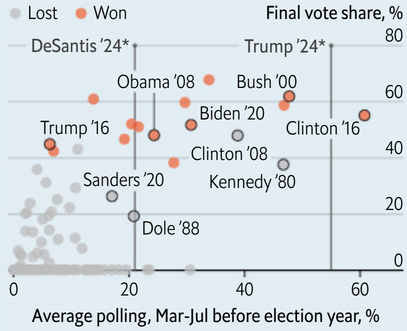
More optimistic sorts, however, point out that there is still a long way to go, even if Mr Trump's chariot is building speed. "We're still months and months and months away from voting. National polls are pretty meaningless—they are going to mean something once voting has started," says David Kochel, a Republican consultant based in Iowa (the first state to vote) who previously worked with Mitt Romney and Jeb Bush. Consultants for struggling campaigns swap Cinderella stories about late-breaking candidates who went from 2% in Iowa to 20% in the space of a month.

Early polls, it is true, do not predict the final results as well as later ones. But that does not mean they are useless. There is a correlation between early strength and the final results (see chart 1). At present, Mr Trump commands the support of almost 55% of primary voters according to a polling average constructed by FiveThirtyEight, a data-journalism outfit. That is more than 30 percentage points more than Mr DeSantis's average. In contested primaries over the past 40 years, six of the eight candidates who have polled above 30% this far ahead of the voting went on to capture their party's nomination. The two candidates who failed to capitalise on such big leads were Ted Kennedy, who ran against an incumbent president, Jimmy Carter, in 1980, and Hillary Clinton, who was eventually upstaged in 2008 by the charismatic Barack Obama. The Republican candidate who comes closest to both Carter-like incumbency and Obama-like magnetism this year is, of course, Mr Trump.

The problem is not simply one of a divided field. Although there are already six declared, halfway plausible candidates, with more to come in all likelihood, even a two-horse race would favour Mr Trump. Recent polling conducted for *The Economist* by YouGov finds that, in a head-to-head contest, Republican primary voters

Colossi and petty men 1

United States, support for candidates in presidential primaries, 1980-2020



*Model of polls at May 24th 2023
Sources: Charles Franklin; FiveThirtyEight; *The Economist*

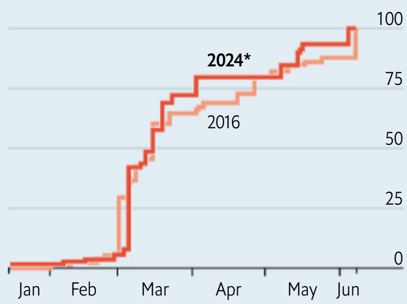
prefer Mr Trump to Mr DeSantis by 58% to 25%. And the former president's support is not at all reluctant or half-hearted. Fully 64% of Republicans want Mr Trump to run again, despite the many alternatives. Democrats, by contrast, are much less energised about Joe Biden, their presumptive nominee: only 53% of them want the president to run again.

In 2016 Mr Trump's opponents thought his outrageous statements and chaotic campaign would inevitably lead to political failure. That proved hopelessly Pollyannaish. Most now assume there is little that Mr Trump could say or do to alienate his base. But some opponents still hope that his campaign will implode because of the sort of messy infighting that characterised his entire time in the White House.

The hitch is that the chaos candidate is a bit more orderly this time. In 2016 Mr Trump's campaign attracted a fair number of charlatans. Current management is more stable. Susie Wiles, one of its leaders, ran Mr Trump's successful operation in Florida in both 2016 and 2020. She also headed Mr DeSantis's run for governor in 2018, when he was Mr Trump's protégé. There is little family involvement: Ivanka Trump and Jared Kushner, the former president's daughter and son-in-law, who served as senior advisers when he was in the White House, are not expected to play any part in the campaign. Mr Trump also has much more personal experience: this is his third run for president (fourth if you count his abortive campaign with the Reform Party in 2000). His Republican opponents are all running for the first time.

Almost over by the Ides 2

United States, delegates allocated in Republican primaries, %



Source: The Green Papers
*Estimate

Mr Trump's team is assiduous. "Shortly after I got elected, the next day or a couple of days later, I received a voicemail from President Trump congratulating me," says Mike Brown, the chairman of the Republican Party in Kansas. The Trump campaign has been "exceptional" in communicating about the primary in the state, he says. The rules that will translate the results of individual state primaries and caucuses (in effect, decentralised party conferences) into votes for contenders for the nomination at the party's national convention are arcane and ever-changing. Unlike the Democratic primaries, in which a state's votes are typically split among the candidates in proportion to their share of the vote, many Republican primaries follow a winner-take-all system. That can turn a relatively narrow lead in terms of the share of the vote into a crushing dominion over delegates. While Mr Trump was president, he encouraged states to adopt such systems or other rules that help the front-runner. And the dates of the primaries keep moving even further forward, giving insurgent candidates ever less time to build momentum (see chart 2).

Mr Trump's team has been seizing a march on its adversaries in other respects, too, diligently soliciting endorsements from senior figures in the party with calls and invitations to the imperial court at Mar-a-Lago. Such support was not forthcoming in 2016, but has been flooding in ahead of next year's contest. Mr Trump has already racked up the endorsements of 51 of the 222 Republicans in the House of Representatives and ten of the 49 Republican senators. His opponents have just seven representatives and two senators among them all. The Trump campaign takes particular pride in its success with Florida's delegation to Congress, who have largely spurned their state's governor. Eleven of Florida's 20 Republican representatives have endorsed Mr Trump, compared with just one for Mr DeSantis. Mr DeSantis and Mr Scott could not expect many endorsements before entering the race, of course, but they have a lot of catching up to do.

Operationally, at least, Mr DeSantis can certainly hope to catch up. He is a prodigious fundraiser, taking in an astounding $217m during his gubernatorial run in 2022, much of which went unspent. Because Mr DeSantis is the favourite among deep-pocketed donors (though his stances on abortion, Disney and Ukraine have irked some), he will rely heavily on an or-

ganisation called "Never Back Down", a so-called super PAC that can take unlimited donations as long as it does not co-ordinate with the official campaign. A person familiar with Mr DeSantis's thinking says he could raise $250m between his official campaign and the super PAC. The mastermind of Never Back Down is Jeff Roe, the founder of a consultancy called Axiom Strategies, which worked on both the failed presidential campaign in 2016 of Ted Cruz, a Republican senator from Texas, and Glenn Youngkin's successful bid for governor in Virginia in 2021. Never Back Down is expected to carpet-bomb television with advertisements and also pay for the canvassers and organisers who must traipse around early-voting states for months.

The official campaign will be run by members of Mr DeSantis's inner circle in Florida. The likely campaign manager, Generra Peck, headed his most recent campaign for governor. His polling guru will probably be another homegrown talent, Ryan Tyson. Mr DeSantis is the favourite to win the arms race for donations. He will have plenty of campaign veterans who know how to spend his takings.

I came, I saw, I squandered

If cash were all it took to become president, America would be midway through the first term of Michael Bloomberg, a tycoon and former mayor of New York who lavished $1.1bn on a failed campaign for the Democratic nomination in 2020. Persuading Republican voters to defect from Mr Trump, as Mr DeSantis must now do, is a difficult task. Many obvious avenues of attack, the ones that might appeal to swing voters in a general election, are non-starters in the primary. Mr Trump's encouragement of the mob that stormed Congress on January 6th 2021 hardly imperils his standing in the party, most of which believes that the election of 2020 was stolen. Nor can his opponents make hay from the inquiries, investigations and lawsuits that have dogged the president since he left office, from the FBI's search for classified documents at Mar-a-Lago to his recent indictment by Manhattan's district attorney for fraudulent book-keeping. These indignities, far from diminishing Mr Trump in Republicans' eyes, have turned him into a martyr. Even political rivals like Mr DeSantis have felt obliged to come to his defence.

The party firmly believes in Trumpism, the blend of populism, protectionism, nativism and disdain for institutions and norms. The old neoconservative and business-friendly order has been swept away. The other candidates' failure to present a "value proposition", says Mr Miller of the Trump campaign, "will impede their ability to build coalitions and actually go and challenge the president…Saying that you're Trump without the drama, which is kind of where it seems Ron DeSantis is going—that just doesn't work."

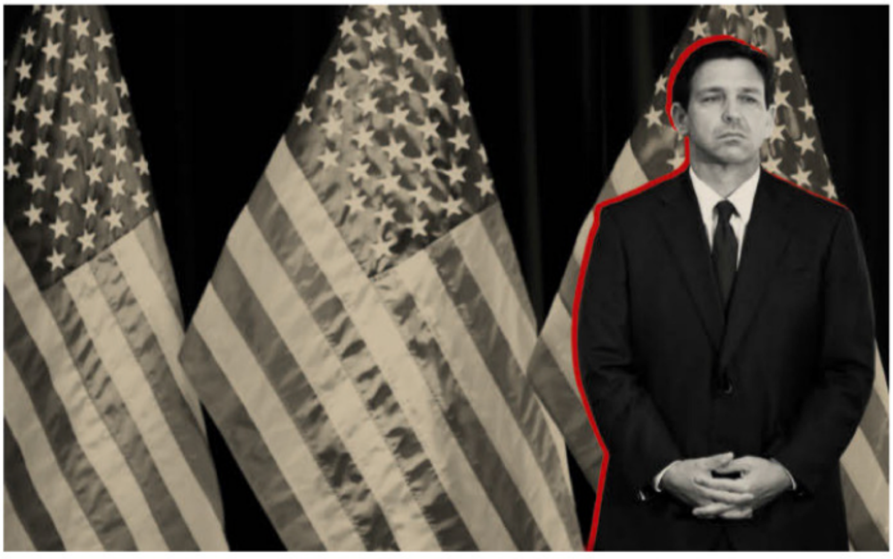
Presidential primaries are often popularity contests more than they are policy debates—and this one will be little different. All the candidates agree that Mr Biden is intentionally wrecking the country, that wokeness has run amok and that the southern border must be sealed. There are only modest signs of disagreement. Mr Trump is attacking Mr DeSantis from the left on fiscal matters, arguing that he will endanger Social Security (the state pension) and Medicare (free health care for the elderly), two sacrosanct programmes among older voters. Mr Scott is calling for less confrontational politics. More internationalist candidates such as Nikki Haley, a former governor of South Carolina, argue that continuing to back Ukraine is vital for America's national security.

Others are more isolationist than Mr Trump. Vivek Ramaswamy, a wealthy Indian-American entrepreneur from Ohio, says, "We've got to be willing to ban most US businesses from doing business in China until the CCP [Chinese Communist Party] falls or until the CCP radically reforms itself." That is a harder decoupling than the other candidates have proposed. He also wants to ban affirmative action, shut down the FBI and use the army to dismantle Mexican cartels that ship fentanyl across the border. Early polls show some success in peeling off Trump voters, but it is a delicate operation. "We rally behind America first for a reason. It's not Trump first," says Mr Ramaswamy. "I'm running against him, but to be clear, I still recoil at the idea that the nominee should somehow be the product of some plot of Republican donors."

But the conspirators must at some point coalesce if they are to be rid of Caesar. In 2016 the fractured field, combined with winner-take-all primary rules, helped Mr Trump triumph. Whereas Democrats united behind Mr Biden in 2020 when it became apparent that Bernie Sanders, a left-wing ideologue, might secure the nomination, Republicans may be hard to corral. At the moment, Mr DeSantis certainly looks like the strongest rival to Mr Trump. But the other candidates seem much keener to attack him than the former president, for fear of alienating the base. Ms Haley has taken to denouncing Mr DeSantis for feuding with Disney, for instance. Other prominent Republicans, such as Kari Lake, a failed candidate for governor of Arizona last year, and Kristi Noem, the governor of South Dakota, have taken to swiping at Mr DeSantis as well. They may be auditioning for the job of vice-president to Mr Trump, and see such attacks as a quick way into his good graces.

Despite his stumbles in recent months, Mr DeSantis is a clever and driven man. He may regain his lean and hungry look and let slip the dogs of war. Many voters will pay close attention to the televised debates, the first of which will be held in August in Wisconsin (although the former president may not participate). Mr DeSantis could point out that the national debt soared by $8trn during Mr Trump's presidency; that crime and illegal immigration both increased despite all the former president's big talk on both scores; that covid-19 was poorly contained and that another epidemic, of wokeness, became more rather than less contagious during his presidency. It might help to point out that Mr Trump, a man famous for peremptory sackings, failed to dismiss Anthony Fauci, the public face of efforts to repress covid, who is about as popular in conservative circles as gun seizures and sharia law.

Such barbs could draw some blood. If wielded with enough force and frequency, they might even fell a man as mighty as Caesar. Luckily for Mr Trump, he is facing a fractious, squabbling and timid bunch. ■





The National Health Service

Ward mentality

To survive, the NHS must stop fixating on hospital care

REFORMING THE BRITISH STATE

Britons still love the idea of the National Health Service (NHS). Its core principles—to provide health care that is comprehensive, universal and free at the point of delivery—are ones the public believes in. As it approaches its 75th birthday (in England) on July 5th, the service is still capable of providing outstanding care.

But the NHS is also in grave difficulties. The fever dream of winter is receding somewhat, but few will forget how many patients died waiting for ambulances and lying in hospital corridors. Hospital waiting lists exceed 7m; efforts to curb them have been stymied by the largest wave of strikes in the service's history. One in 11 posts in the NHS is vacant.

These problems cannot just be pinned on the aftermath of the covid-19 pandemic. Britain has fewer hospital beds per person than almost any other rich country, and fewer CT scanners. Its health outcomes lag behind its peers'. Among 18 rich countries, Britain has some of the worst five-year-survival rates for killer diseases such as lung, colon and breast cancers, and fares poorly on outcomes for heart attacks and strokes. Life expectancy in Britain lags behind most other rich countries.

More than seven in ten of Britons now agree that their beloved NHS is "broken". Politicians are increasingly willing to talk about the problems of the system. But there is less consensus about what should be done to fix things. Some argue that throwing more money at the NHS would be enough. Others think the time has come for root-and-branch reform. Others still believe that the existing system can be adapted and improved. Who is right?

It is true that more money will be needed. Since 2010 the NHS has done better than other departments but, save for a pandemic-related spike, the flow of money from central government has slowed (see chart 1 on next page). That has badly dented the finances of many NHS trusts, the organisational units which run health-care services. They balanced their books by raiding their capital budgets and by forgoing investment in medical equipment, buildings maintenance and digital records.

A report in 2020 by the National Audit Office, which scrutinises public spending, found that across the OECD, a club of mostly rich countries, Britain invested the least capital per person in health care in 2015. The French and German systems respectively spent 21% and 39% more on health care per person than Britain did between 2010 and 2019, according to research by the Health Foundation, a think-tank.

Nurses, junior doctors and others who have suffered a decade of real-terms pay cuts have taken to the picket lines. The underfunding has been most apparent in general practice, the first point of contact for most patients and the most cost-effec- ▸▸

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tive part of the system. "General practitioners are paid £160 per year per patient: that is less than it costs to insure a gerbil," points out James Morrow, a GP in Sawston, in Cambridgeshire. Many GPs have quit; many more intend to (see chart 2).

But spending more money cannot be the only answer. At £160bn ($198bn) the annual budget the government gives NHS England to commission health services is already larger than the economies of all but four African countries. Health care is the biggest line item in the government's budget: 38p of every pound the state spends on public services goes on the NHS.

The King's Fund, a think-tank, has calculated that if the 50 years from 2012 were to follow the trajectory of the previous 50 years, then Britain would be spending almost a fifth of GDP on the NHS and employing one-eighth of the working population. But by the 2060s Britain's ageing population will resemble an ice-cream cornet rather than a pyramid. A narrowing cone of younger people, rather than a broad base, would not be able to provide that amount of labour and taxes. Resources are already being wasted. A report by the Institute for Fiscal Studies, a think-tank, found last year that, despite getting more money and more staff, the NHS is less productive than it was before the pandemic.

Some conclude that what the NHS needs is a radical overhaul. "It's electoral suicide to go against the NHS," says Professor Stephen Smith, who used to run one of its trusts. "But we can't go on like this."

No time for patients

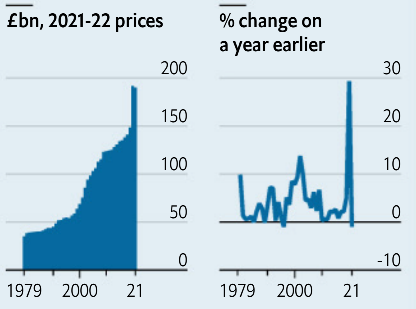
One option for root-and-branch reform is to charge more patients at the point of use. Last September minutes leaked from a secret meeting between the chiefs of Scotland's National Health Service showing that they had discussed the possibility of a "two-tier" system in which the wealthy would pay for their care. The introduction of small co-payments for overstretched services like general practice and accident & emergency (A&E) departments has also been mooted.

To the charge that rationing has no part in a universal health-care system, proponents riposte that it already exists. Prescriptions are free for some patients, for example, but not for others. And whereas other health-care systems rely on price to manage demand, the NHS uses hidden mechanisms: administrative hoops, snarling receptionists and endless waiting lists.

Co-payments might curb demand, but they would do so by deterring patients from seeking care. Some people, particularly the poor, would not seek treatment when they need it. In dentistry, where patients are already charged for appointments (with some exemptions), the government has ramped up patient charges

More and less 1

England, health spending*



Source: Government statistics *Fiscal years beginning April

while reducing its own funding over the past decade. England now spends the lowest share of its health budget on dentistry of any country in Europe. The underfunded dental contract has pushed thousands of dentists into private practice. That has created a two-tier system in which the rich go private and those who cannot afford or find an NHS dentist resort to DIY treatments involving pliers and alcohol.

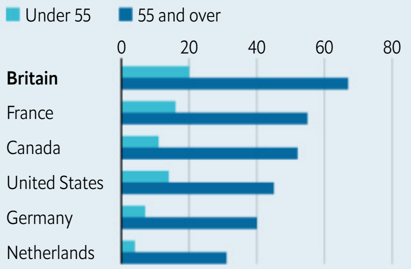
Another suggestion for fundamental reform is that Britain should switch to a social-insurance model, similar to that operating in France, Germany or the Netherlands. At the moment the NHS is funded out of general taxation. Under a social-insurance model, employees and employers pay contributions into a not-for-profit fund which is then used to purchase health care. Advocates suggest that by earmarking money for the NHS, this system might make people feel more responsible for their own health. And by taking responsibility for financing health care away from the government, it might also reduce the temptation for politicians to meddle.

Yet meta-analyses suggest that there is no relationship between a country's choice of funding system and its health outcomes. And all health systems have their own challenges. In the Netherlands GPs spend almost three times as much of their

Stethoscope down 2

Primary-care physicians who intend to stop seeing patients within the next three years

By age group, 2022, % responding



Source: The Commonwealth Fund

time on admin as their British counterparts, who already feel they are drowning in paperwork.

Making changes of this magnitude would be a huge political gamble, too. A recent survey by Ipsos, a pollster, found that 90% of Britons believe the NHS should be free at the point of delivery, and 84% think the NHS should be funded primarily through taxation. Such consensus is not found on other issues. Trying to switch to a new model would be "like throwing rocks at Everest", says Alastair McLellan, who edits the Health Service Journal, a website. "The NHS is a fixed fact. Clever policymakers work with that, not against it."

If ripping up the NHS's founding principles is not an answer, radicalism is nonetheless required. That is because the NHS is far too focused on one element of the health-care system—hospitals. Aneurin Bevan, the Labour politician who was the architect of the NHS, called hospitals the "vertebrae of the health system". It is more accurate to think of them as sponges.

In the three years to 2018-19, hospitals' share of total NHS spending increased from 63% to 65%; the share accounted for by primary and community services fell from 20% to 19%. By current prices, 47% of all central- and local-government spending on health care in Britain goes on hospitals, compared with 44% of funding from comparable schemes in France, 36% in the Netherlands and 33% in Germany. Within the OECD, when comparing government-funded or compulsory schemes, only America spends a bigger share of its GDP on hospitals (see chart 3 on next page).

A hospital-focused model worked well enough when the NHS was mainly there to provide urgent treatment for infections and injuries. Those days are long gone. The latest available data showed that half of all GP appointments and 70% of inpatient bed days were taken by those with long-term conditions, such as diabetes. Family doctors and community nurses are best-placed to manage these chronic conditions, yet only 8% of the NHS budget goes to general practice, down from 11% in 2005-06. Hospitals are plainly not the places to prevent things which contribute to ill-health, like obesity. Britain is the third-fattest country in Europe; if everyone was a healthy weight, a recent study found, the NHS could save up to £14bn a year.

It gets worse. Hospitals are primarily paid on the basis of "activity", which at times incentivises them to perform unnecessary treatments and not collaborate with other bits of the NHS. An estimated 10% of the cost of inpatient care in hospitals is spent looking after those in the final year of life, often on ineffective tests and treatments. Meanwhile, general practice and community services are often funded by fixed budgets in exchange for broadly de-

fined services. They have little incentive to reduce referrals to other services.

The system does not just suck patients into hospitals but also keeps them there for too long, in part because of a shortage of carers. More than one in ten beds are occupied by people who do not need them. To speed up delays in discharging patients, some hospitals are even giving money to cash-strapped councils to pay for social care. "If everything is focused on acute hospitals that have already spent nearly half of the entire NHS budget, the NHS will fail," says Joe Harrison, who runs an acute trust in Milton Keynes.

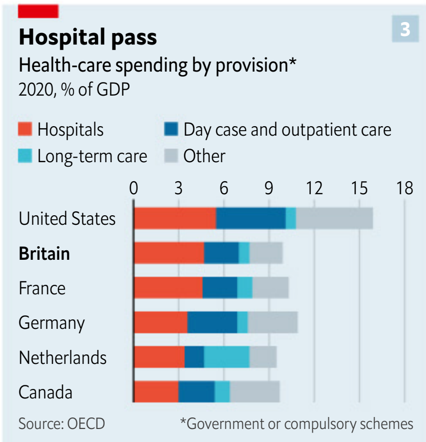
Such warnings are not new. Nor are calls to shift money away from crisis management in hospitals and towards community care and prevention. "We are often not invited to meetings as it is seen as predictable what we will say," says Kamila Hawthorne, the chair of the Royal College of GPs. "We're constantly banging the drum on funding." That might invite scepticism that anything will change. But two big building-blocks are moving into place.

One gives regions more freedom to improve the health of their own populations. The NHS has long suffered from top-downitis, with the centre issuing a blizzard of orders and performance metrics. In his book "Zero", Jeremy Hunt, a former health secretary and now the chancellor of the exchequer, recalls asking one hospital how many instructions it received related to patient safety: the answer was 108 documents a year. Such bureaucracy is hugely counter-productive—a classic case of hitting the target but missing the point.

The latest organisational shake-up of the NHS is therefore promising. In 2022 the Health and Care Act created 42 Integrated Care Systems (ICSs), each covering an average of 1.5m people. They bring together NHS bodies, local authorities and charities to plan and deliver health and care services in a more joined-up way. Each ICS also chooses longer-term goals to work towards, such as reducing health inequality.

Bits of the NHS have already worked out the value of co-ordination. "It's just completely bloody obvious that we all need to work together," says Sir Jim Mackey, the boss of Northumbria Healthcare Foundation Trust, which has been working with other partners for decades. But ICSs should make that more common. To take one example, on average homeless people use eight times as many health services as other people (mainly A&E and ambulances). Instead of trying to manage this demand, West Yorkshire's ICS works to reduce homelessness—for instance, by helping tenants at risk of eviction to improve their mental health. "You have to start with the needs of the people, not structures," says Rob Webster, its chief executive.

To be truly beneficial, ICSs will need to



be made more "hard-edged", says Axel Heitmueller of Imperial College Health Partners, a partnership of NHS providers. Data can already be used to measure a small set of population-health outcomes, such as healthy life expectancy. To incentivise improvements on these measures, he reckons ICSs should be able to "earn back" a proportion of the savings they make from helping people to get healthier and be allowed to reinvest this money.

The second crucial building-block for reform is technology. There is an awful lot still to do in this area. Less than half of ICSs have a data platform to help them manage their populations' health. Privacy concerns and bungled implementation have impeded efforts to join up patient records—and to realise the potential of the NHS, which is unusual in holding cradle-to-grave information on a national population, as one of the most valuable repositories of health data in the world.

But the NHS is taking steps towards a future of greater productivity and more personalised care. It has already had success rolling out virtual wards—for example, using pulse oximeters to monitor the breathing efficiency of recently discharged patients. It is carrying out breast-cancer scans in shopping centres and cataract surgery in car parks. In partnership with Our Future Health, a programme that aims to track the health of 5m Britons, blood samples are now being taken in the back rooms of Boots, a high-street pharmacist. In future the results will allow more targeted screening for cancer and the creation of individual risk scores. Genomic sequencing should help the NHS to spot diseases earlier, to the benefit of patients and taxpayers.

Patients should soon be able to access personalised health advice on the NHS app, and receive nudges to eat better and exercise more, as already happens in Singapore, says Seb Rees of Reform, a think-tank. In future the app could become the new front door to the NHS, with options for self-referrals, self-monitoring and home testing. Through Patients Know Best, a software company, patients can already get access via the app to an individual patient record which shows them their results and their medical records. Fran Husson, a patient with multiple conditions, uses this service to make personalised plans for her care in conjunction with her consultant. "It has been transformative," she says.

The NHS has a long list of problems to tackle. Britons are getting older: that will drive up demand for health care. Culture is critically important: the NHS suffers from too much respect for clinical hierarchies, too much fear of blame when things go wrong and too little focus on the patient. Retention of staff is poor. Politicians are still liable to meddle, and to funnel money to the latest crisis. But community care, decentralisation and technology offer the NHS its best chance of delivering better results. That would also restore Britons' faith in their most treasured institution. ■



Industrial policy

Dear as chips

Britain's semiconductor strategy shows the bind the country is in

IT WAS THE underwhelming announcement the industry had been waiting for. On May 19th the government unveiled a £1bn ($1.2bn) decade-long dollop of funding aimed at boosting Britain's semiconductor sector.

Industrial policy is back in vogue, especially when it comes to microchips, which power everything from washing machines to missiles. Spooked by shortages during the covid-19 pandemic, and worried that so much of the industry's capacity is in Taiwan, which China regards as a rogue province, governments have been waving some very big chequebooks.

America has announced $53bn of subsidies and bribes over the next five years to boost domestic firms and lure cutting-edge chipmakers from Asia. The European Union has likewise promised €43bn ($46.2bn) in handouts, in the hope of doubling its market share by 2030. Other countries have big-spending plans of their own.

Britain's announcement looks anaemic by comparison. The opposition Labour party accused the government of lacking ambition, and also pointed out that the money is backloaded, with just £200m due to be spent by 2025 and the rest doled out by 2033. Simon Thomas, the boss of Paragraf, a chip firm based in Cambridge, pointed out that even the full £1bn would not be enough to fund the cost of a single modern chip factory or "fab".

But Britain's government is in a bind. Its stated aims are to build up Britain's chip industry, mitigate the risk of supply-chain disruption and bolster national security. Yet it cannot hope to match the spending power of supersized economies like America's and China's. The chip industry is sufficiently globalised and full of high-tech bottlenecks that it is doubtful whether even a superpower can corral an entire supply chain within its borders. In any case, while Britain has a smattering of domestic chip firms, it lacks a big manufacturer, such as Intel, Samsung or TSMC, that could be a plausible national champion.

Instead, the idea—at least in theory— is to focus on cheaper interventions. That includes more money for research and development, and a focus on companies that design chips but leave the business of manufacturing to others. One well-known example of that "fabless" strategy is Arm, a British-headquartered firm whose chip designs power the world's smartphones.

Another aim is to position the country to benefit from technologies that might become big in the future. Ministers are keen, for instance, to promote compound semiconductors. These make use of elements other than silicon, such as germanium or selenium, which have different electrical properties. The strategy also mentions photonics, which uses light rather than electricity to do computational work. Britain has small firms active in both areas.

National security is to be pursued partly via diplomacy. On May 18th, on a visit to Japan, Rishi Sunak, the prime minister, announced a new partnership to bolster supply chains. (Japan boasts several big suppliers of chip-making equipment.)

Some commentators think the government's understated approach has merit. Malcolm Penn, who runs Future Horizons, a chip-industry consultancy, points out that the worldwide wave of subsidies to the industry now amounts to around $50bn a year, or nearly half the industry's capital expenditure. That wall of money, he says, risks creating a long-term glut in capacity that could eventually leave state-backed factories struggling.

And the British government's fingers have been burned before. In the 1970s it funded the development of a firm called Inmos, whose chips anticipated many modern trends. That was not enough to save it. The firm was eventually swallowed up by STMicroelectronics, a Dutch firm. Subsidies powered the building of chip factories in Scotland and Wales during the 1980s and 1990s. Most have now closed.

Can the government's latest, deliberately modest strategy move the needle? Even its defenders concede it is unlikely to transform things. But, says Mr Penn, it is probably more sensible than trying to match the financial firepower of economies ten times Britain's size. "Just bribing someone to build a factory: that's probably not the best strategy," he says. ■



Clean-room competition



The movie business

Best supporting actor

PINEWOOD STUDIOS

A strike in America spells disruption—and perhaps opportunity

INDIANA JONES has fought his way through jungles, snakepits and booby-trapped temples. But his latest cinematic adventure, due from Disney next month, took place just off the M25 motorway near Slough. Pinewood Studios, where "Indiana Jones and the Dial of Destiny" was shot, is not the only place in Britain to star at the movies. Barbieland, the bright-pink setting for the forthcoming "Barbie" movie, was created on the outskirts of Watford, where Warner Bros has its giant Leavesden Studios. "Andor", the latest instalment in the Star Wars saga, was shot in locations around England and Scotland.

Britain is one of the world's largest centres of video production. In the year to April, 1,788 new TV series were ordered by a broadcaster or streaming platform based there—more than in any country bar America and Japan, according to research by Ampere Analysis (see chart on next page). As well as these local commissions, the bulk of which are "unscripted" (a category that includes reality TV, sport and the like), Britain hosts many high-profile—and valuable—scripted productions by American studios, which come for the talent, tax breaks and high-tech facilities.

As an industrywide arms race for streaming content forced Hollywood studios to go abroad in search of production capacity, Britain was one of the winners. But its popularity with American studios means it will also be among the losers of the writers' strike that has brought Hollywood to a halt. The Writers Guild of America (WGA) downed pens on May 2nd, com- ▸▸

plaining that the cut-throat economics of streaming had eroded writers' pay and conditions. New scripts, and thus most new scripted productions, are on hold.

Though there is no strike in Britain, filming will be disrupted. American-made shows shot on British soil may continue only if their scripts are finalised—a tougher condition than it sounds, as big productions typically have writers on hand to fiddle with the script during filming. British-made shows commissioned by American firms can go ahead if contracts are already signed and under British law. But any new deals are off-limits—at least for anyone who wants to work in Hollywood again. The Writers' Guild of Great Britain warns local writers against working for American studios during the strike: "You risk being blacklisted by the WGA, which could seriously damage your long-term career."

Production is already drying up. Even before the strike was announced, there was "trepidation about committing to projects this year", says David Gray, managing director of Lux Machina, a high-end visual-effects company. When filming wraps on titles that are already in production, like Warner's next season of "House of the Dragon", currently under way at Leavesden, the dearth of new projects will be felt more keenly. Mr Gray recalls that the previous WGA strike, which lasted for 100 days in 2007-08, knocked the British film business off course for a couple of years. The current strike seems nowhere near a resolution.

But there are two ways in which British film-makers may benefit. First, production costs stand to fall. The content-commissioning frenzy of recent years has inflated the price of everything from studio space to hairdressing, as Apple, Amazon and Co have arrived with their Silicon Valley-size chequebooks. It has been a bonanza for the people who do those jobs, but excruciating for anyone who needs their services. As demand from American studios cools, the likes of ITV and the BBC will find that their more modest budgets go further.

Second, locally made shows will command a higher price internationally. As the strike goes on, American streamers will run out of new content, without which they may lose subscribers. Though the dispute prevents British writers from working for American studios, there is no ban on the studios buying shows that are already made. If the strike continues, "the acquisitions market will heat up," says Fred Black of Ampere Analysis, who expects British firms to push their shows harder to American distributors. Hollywood's studio chiefs might not fear the unions. They may yet be brought to their knees by re-runs of "Midsomer Murders". ■



Inflation

Bittersweet

The economy may grow by more than expected but inflation is stickier

BRITAIN'S ECONOMIC outlook is a bit rosier. That at least is the verdict of the IMF, a global financial watchdog, which on May 23rd upgraded its forecast for the country. Instead of falling into a recession this year, as it was predicting in April, the IMF now believes that Britain will eke out growth. The fund attributed the improvement to a trifecta of falling wholesale energy prices, improved financial stability and warmer relations with the EU, exemplified by Rishi Sunak's recent deal to reduce trade frictions in Northern Ireland.

As a result the IMF reckons that Britain no longer looks like the sick man of Europe. The fund's growth forecast of 0.4% for 2023 is hardly the stuff of champagne and cartwheels, but it is still better than the slight contraction it predicts for Germany. The fund thinks that Britain will also do better than France and Italy over the next few years. Those politicians who pointed out the fallibility of the IMF when it was predicting a recession now hail the technocrats' prophecies as evidence that pessimism about Britain is overdone.

At first glance inflation figures published on May 24th appear to be similarly encouraging for the government and its supporters. For the first time since the Russian invasion of Ukraine, the pace of price growth fell into single digits: the consumer-price index was 8.7% higher in April than 12 months previously. That is a big fall compared with the 10.1% rate in March.

In fact, there was little—if any—good news in the figures. The drop in the headline rate largely reflected "base effects". Energy prices jumped in April 2022 as a cap on retail prices was adjusted to reflect higher wholesale prices following the start of the war in Ukraine. This April's fall in the year-on-year comparison reflects a more favourable starting-point.

The drop was also less than economic forecasters had expected. Economists working at banks and the like had predicted that the rate of inflation would drop even more steeply, to 8.2%. Higher food prices, increasing by 19% compared with April 2022, were partly responsible. So was a jump in the price of communication: many mobile-phone and broadband suppliers update their prices for annual contracts in April.

Most concerning for the Bank of England, so-called core inflation, which strips out food and energy to give a less volatile picture of underlying inflationary pressure, rose to 6.8% in April, up from 6.2% in March. That means the core-inflation rate is at its highest level since 1992. A similar rise occurred in the rate of services inflation, a decent indicator of the domestically generated inflation that the bank has the greatest power to affect.

Investors promptly raised their bets on an increase in interest rates when the bank holds its next meeting in June. Markets also predicted that the main policy rate will peak at 5.25% in November, compared with a peak of 4.5% before the latest data were released. The yield on government borrowing jumped to levels just below those seen in the chaotic aftermath of the disastrous mini-budget in September.

The combination of better-than-expected growth prospects and worse-than-forecast inflation does make the bank's decisions much easier: the economy both needs and can cope with higher interest rates. But rising mortgage costs and stubbornly high inflation mean that it will be a while before Britons share the IMF's sunnier view of the country's prospects. ■



Basket case?

Bagehot | More immigrants, less immigration

The government's immigration policy is incoherent because voters are incoherent



THE BIGGEST lie in British politics is that voters want honest debate. Whenever a policy problem emerges, sensible types call for the trade-offs to be laid out before an informed voting public who will carefully weigh the options. Anyone who has sat through a focus group or gone canvassing with a politician knows this is nonsense. When faced with an either/or question, British voters usually give a decisive answer: "yes".

Nowhere is this more true than immigration. A majority of voters think migration is too high, according to most polls. Almost nine out of ten Conservative voters think this; a plurality of Labour voters agree. At the same time, British voters say they want more nurses, doctors and fruit-pickers. Carers, academics, computer whizzes and students are welcome, too. Big-hearted Britons thought the country was completely right to let swathes of refugees from Ukraine and Hong Kong into the country. Britons may not much like immigration, but they are keen on immigrants.

If so, then the Tories have come up with an impeccably botched policy response. A Conservative government that has pledged to cut immigration at the past four elections has instead overseen an increase to a record level. Net migration hit 606,000 in Britain last year, according to figures published on May 25th, as people took advantage of a more liberal post-Brexit immigration regime. The British government has thrown open the country's doors while complaining about the people who walk through them. It is utterly incoherent. But when it comes to immigration, so are voters.

Public opinion on immigration was not always so confused. Attitudes used to move in lockstep with numbers. In the 1940s and 1950s Britain accepted workers from across the Commonwealth, who could enter the country as they pleased. By the 1960s eight out of ten people wanted lower immigration; hard-nosed and rather racist legislation followed. Likewise, when immigration increased during the 1990s and 2000s, so did concern. This trend reached its apex in 2016, when, with just a month to go until the Brexit referendum, the government announced a then-record net influx of 330,000 people. Britain voted to leave the EU, with immigration cited as one of the main reasons.

This tidy relationship has broken down. Immigration has increased sharply since the Brexit vote but concern about it has, if anything, gone down in the past decade. In 2012 a quarter of voters thought immigrants boosted Britain's economy; half thought immigrants harmed it, according to British Future, a think-tank. Now those proportions have reversed. The number of people who cite immigration as the number-one problem facing the country has plunged, while issues such as lousy health care and high inflation top the worry-list.

Attacking immigration was once an easy win for politicians. In 2015 almost 70% of voters wanted immigration reduced. Now, only 42% do. At the same time, a hard-core minority of people now want migration to increase. In 2015 only one in ten wanted this. Now about a quarter do. James Dennison and Alexander Kustov, a pair of academics, label this phenomenon a "reverse backlash". Politicians have tried to placate voters tempted by anti-immigrant populist parties and ignored others in the process. Once-silent liberal voters have started demanding to be heard. (Intriguingly, about half of people think the British public has become less tolerant overall, even though most polling points to the opposite; when discussing immigration, Britons think in irregular verbs: "I am tolerant; you are prejudiced; he is a complete bigot.")

Conservatives are split on how to deal with this change. For some, the increasingly liberal views of British voters when it comes to immigration should be seized on. Dominic Cummings, the architect of the Vote Leave campaign in 2016, argued that voters would be happy with high levels of immigration as long as it was controlled. Judging by the positive shift in attitudes on immigrants, he was right. If the government can stop people crossing the English Channel in small boats (some 45,000 arrived last year in this manner) voters will not care about the larger numbers of migrants arriving through official channels. There are few benefits of Brexit. But Britain's immigration policy could be one.

For other Conservative advisers—including those currently in Downing Street—immigration simply must come down if the government is to have any chance of surviving. In their view, the liberal turn is a mirage. When voters eventually notice that immigration has, in fact, hit an all-time high they will be furious. People have mistaken a drop in salience with an increase in liberalism. This hypothesis is about to be tested in real life: if voters want control rather than reductions, what if more than half a million arrive every year? Rishi Sunak, the prime minister, thinks he knows the answer to that question, and has pledged to reduce the numbers.

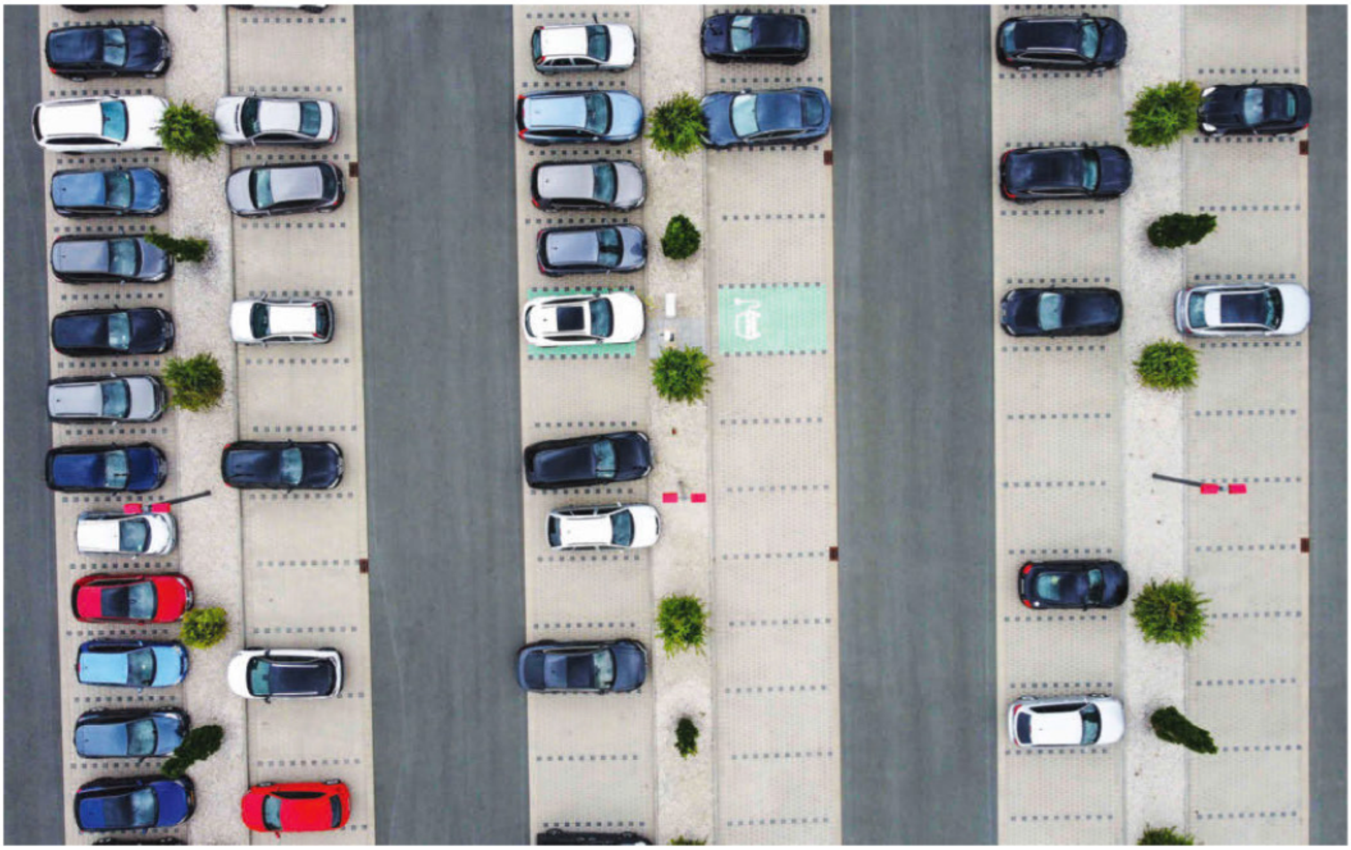
Welcome. Now get out

Taking numbers down a little is easy. Unless another war breaks out in Europe, there will be fewer refugees next year. Bringing them down a lot is harder. If the British government wants fewer people to come, it can change the law and suffer the consequences. Suella Braverman, the home secretary, has already tightened rules on the number of international students who can bring dependents, even though voters are broadly comfortable with people coming to Britain to study and universities rely on their fees. The government could crack down on fruit-pickers, but farmers in Lincolnshire would scream. Few voters would thank a government that turns away nurses. Cutting immigration comes at a cost that voters show no willingness to pay.

Rolling out the welcome mat and then shouting at anyone who wipes their feet on it may be an imperfect approach. But from the government's point of view, it will have to do. Voters do not want to live with the consequences of their opinions. When voters are hypocrites, politicians must be too. ■


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Electric cars

Europe's electric opportunity

BERLIN

The bumpy road to zero-emission mobility

On the last weekend of April the Berlin showroom of NIO, a Chinese maker of electric vehicles (EVs), was a happy place. On the first floor a family was celebrating a child's birthday party. On the ground floor car enthusiasts inspected an SUV, a saloon and a racing car on display. The price tags were high (around €50,000, or $54,000, for the passenger car and almost €75,000 for the SUV; the racing car was not for sale) but they seemed considerably lower than those of German rivals such as Mercedes or BMW—until you read the fine print. The battery is not included. It must be bought for €12,000 or €21,000, depending on capacity; or rented.

For many Europeans an EV is still unaffordable (an average petrol-powered passenger car sells for around €28,000), but sales of EVs keep growing rapidly. Fully battery-powered cars accounted for 12.1% of cars registered in the European Union (EU) last year, compared with 9.1% for EVs in 2021 and just 1.9% in 2019, according to the European Automobile Manufacturers' Association (ACEA). A wider category, alternatively powered vehicles (APVs), which lumps together pure electric and plug-in and non-plug-in hybrids, made up more than half the EU car market during the last quarter of 2022, with over 1.3m vehicles registered in total. It was the first time that APVs surpassed purely hydrocarbon-powered cars.

"The EU is the global front-runner in the adoption of EVs," stated a report last November by McKinsey, a consultancy. The union's member states are themselves responsible for more than a quarter of the world's EV production, and are big importers of them too. Forward-thinking carmakers and early-adopting consumers could create a world-leading EV ecosystem, which could generate new jobs and speed up progress towards climate goals—or so McKinsey enthuses.

The biggest stumbling-block to an electric-car future, though, is the charging infrastructure, which is not keeping pace with the increase in vehicle sales. According to ACEA, between 2016 and 2022 sales of electric cars in Europe grew almost three times faster than the number of charging-points that were installed there.

Power to the people

For electric vehicles to play their full part in the EU's ambitious goal of carbon neutrality by 2050, the EU will need to increase the number of public charging-points from around 300,000 to at least 3.4m and up to 6.8m by 2030, says another McKinsey report. That is a tall order. Up to 14,000 public charging-points need to be installed per week until 2030, says ACEA. The number is currently just 2,000 per week.

The EU will also need to ensure that chargers are more evenly distributed, to harmonise payment systems, and to provide many more fast-charging points for lorries. At the moment half of all EU charging-points are in the Netherlands (90,000) and Germany (60,000). A big country like Romania, which is six times larger than the ▸▸

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Netherlands, has only 0.4% of all the EU's charging-points.

The imbalance in the charging infrastructure reflects the cost of EVs. Electric cars have a much higher market share in northern and western European countries, where average post-tax incomes are €32,000 a year, than in southern and eastern Europe, where the average is less than half that. Yet because of lower global prices for lithium and other materials needed for battery production, as well as government subsidies, the economies of scale of rapidly increasing production and stiff competition, especially from Chinese producers, prices for EVs are falling faster than some forecast. "By 2025 or 2026 most carmakers will be able to build petrol-powered cars and EVs for the same price," predicts Daniel Röska of Bernstein Research. At the moment it costs about €3,500 less to build a petrol-powered Golf, a popular Volkswagen model, than an equivalent-size EV.

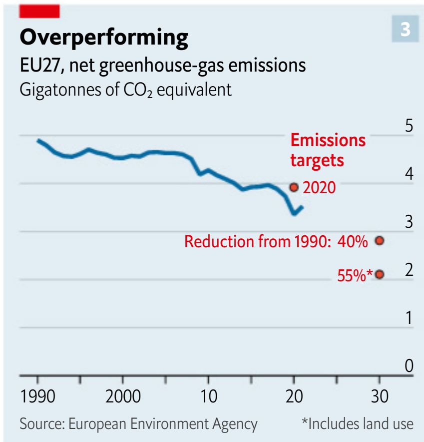
The charging infrastructure is likely to remain a sticking-point for longer. In March the European Commission announced a new law aimed at appeasing worries about gaps. It sets targets for electric recharging and hydrogen refuelling, such as a requirement that for each battery-powered car in an EU member state, a power output of at least 1.3 kilowatt (kW) must be provided by publicly accessible chargers. And for every 60km along the trans-European road network, a fast recharging station with a total of at least 150kW of capacity should be installed from 2025 onwards.

This is not nearly enough, says the European carmakers' lobby. "Already today, a lack of charging and refuelling stations is severely hampering the market uptake of zero-emission vehicles," comments Sigrid de Vries, ACEA's director-general. She predicts that "a significant infrastructure gap" will continue to limit the transition of Europe's car industry. In response, some carmakers started building their own charging networks a while ago, led by Tesla. In January Mercedes announced it will put in place some 10,000 chargers worldwide by the end of the decade.

Fit for 55, a climate package with 13 proposals presented by the European Commission in July 2021, increased the ambition for the fight against greenhouse-gas (GHG) emissions to a reduction of emissions by 55% (compared with levels in 1990) by 2030 from the original 40% reduction proposed back in 2011. Transport is one of the keys to success. It accounts for 22% of the EU's total emissions. Within that, 70% comes from road transport; and road transport is the only sector where emissions have steadily risen since 1990. (The EU has reduced its overall carbon footprint by 30% since 1990, mainly by burning less coal to generate electricity.) In a report in October the commission said the EU was "on track to deliver on its climate ambition", but that "swift action" was required to meet the 2030 goals as well as the 2050 net-zero ambition. That was why the Fit for 55 proposals were put forward. These proposals are still working their way through the union's lawmaking process.

Going for green

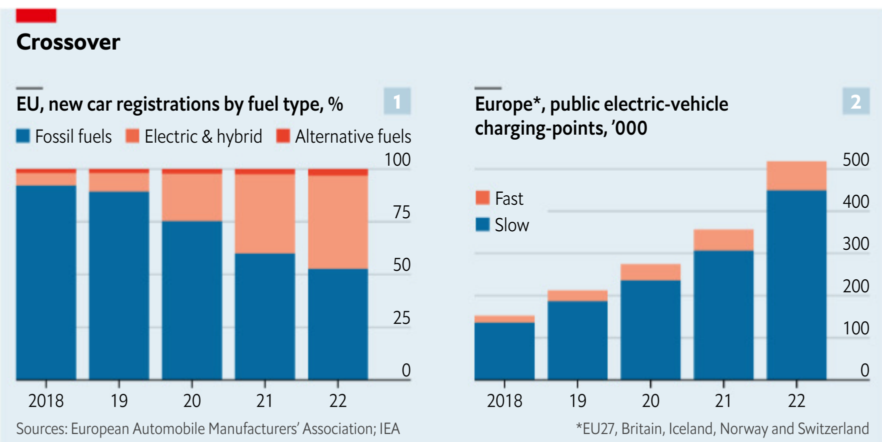
Fit for 55 might sound like a low-impact yoga class for the middle-aged, but its range of plans could make Europe the world's climate-policy leader, provided they are followed up. They include a ban on the sale of new internal-combustion engines (ICE) by 2035, and new rules that beef up the targets for emission reductions by 2030 for sectors covered by Europe's emissions trading system (ETS). The ETS is a cap-and-trade scheme in which permits to emit carbon are allocated to aviation, energy-intensive industries and power generators, and can then be traded between them. The proposals also add transport and domestic heating to the existing ETS scheme. Moreover, new levies at the EU's borders for carbon-intensive imports, such as industrial materials, are part of the proposals, as well as the establishment of a "social climate fund" that will be used to help vulnerable households and small firms cope with the price increases of bringing heating and transport into the ETS.



At the end of April EU ministers approved six central laws of the Fit for 55 package, including the carbon border-adjustment mechanism and the social climate fund. Whether the EU will manage to meet its ambitious climate goals will now depend on member states' willingness to deliver on the plans and to abstain from watering down any legislation that does not sit well with their voters, says Elisabetta Cornago of the Centre for European Reform, a think-tank in Brussels. Germany's recent last-minute attempts to block the ban of new ICE powered cars from 2035 does not augur well. Germany insisted on allowing some new ICE cars to be built after 2035, so long as they are fuelled with carbon-neutral e-fuels, such as ethanol. Critics fear this will open the door to cheating.

Likewise, Italy's right-wing government is now pushing back against the EU's plans to improve the insulation and energy efficiency of public and residential buildings. Buildings account for roughly 40% of the EU's energy consumption and 36% of its carbon emissions. Yet Italy's housing stock is older and more dilapidated than that of many other countries, so meeting the targets will require extensive and costly renovations. Italy's construction association says that some 2m buildings will need renovation over the next ten years, at the eye-watering cost of €40bn-60bn a year, if it is to meet the EU's green homes plans. Italy's government also backed Germany in its last-minute reversal on the end of the ICE, and criticises the proposal to slash industrial emissions.

"Fit for 55 is entirely on track; that is, the main laws have literally just been voted and now need to be implemented," says a Brussels official. Transport is in better shape than other sectors in terms of progress to net zero. Seven laws of the Fit for 55 package still need to be approved. But if they pass soon, the EU could stake a strong claim to be considered the world leader in the fight against climate change. ■



Russia and Ukraine

Raid on Belgorod

KYIV

But who is really behind the attacks?

IN THE LATE afternoon of May 22nd footage emerged of two grinning pro-Ukrainian fighters in the midst of a cross-border raid into Russia. "The key to the border has been broken in half," says one, quoting from "Everything is Going to Plan", a cult anthem by Civil Defence, a Russian rock band. But the attack that the two men had helped engineer showed that, for Russia, things were very much not going to plan. It included: an illegal crossing from Ukraine into Belgorod, a Russian region on the border, by tanks and infantry fighting vehicles; the death of at least one border guard; farm buildings on fire; a downed helicopter; traffic jams of fleeing locals; and the reported evacuation of a nuclear-arms facility several kilometres into Russian territory. Who was responsible for the incursion?

Members of two militias that oppose Vladimir Putin—the Russian Volunteer Corps and the Free Russia Legion—claimed to have "liberated" several border villages. The groups appear to be based in Ukraine, from where they mount their attacks. Russia says that the militias are a front for the Ukrainian army; Ukraine insists that they are composed of Russian dissidents. The reality is somewhere in between. Both militias do indeed recruit disaffected Russian nationals. Both also co-ordinate their activities with HUR, Ukraine's military-intelligence agency. Yet the groups have no formal connection to the Ukrainian government. That allows Ukrainian officials to distance themselves from the militias' operations, however implausibly.

The Kremlin sought to downplay the embarrassing security breach. Russian officials described it as an attempt by Ukraine to "deflect attention" from what they claimed was their capture of the long-contested town of Bakhmut on May 20th (Ukraine says it still holds buildings and trenches on Bakhmut's south-western edge). On May 23rd the Russian defence ministry claimed to have killed or expelled all the militia fighters from Belgorod, though it provided no evidence.

A Ukrainian intelligence source offers a more realistic assessment. Two ideas underpinned the operation in Belgorod, he says. The first was to undermine Mr Putin's domestic authority: if a strongman can't guarantee security, what is the point of him? The second was to pull Russian military reserves away from critical sections of the front line, in the run-up to a long-planned Ukrainian counter-offensive.

This is not the first foray by Ukraine-backed militias into Russian territory. The Free Russia Legion and Russian Volunteer Corps were formed last year, under opaque circumstances, but came to prominence this March when they spearheaded an incursion from Ukraine into Bryansk, another border region. Russia claimed that two civilians were killed in that attack, but offered no proof.

The two militias differ in organisation and ideology. The Free Russia Legion is more chaotic and closer to HUR; the Russian Volunteer Corps is better disciplined but has far-right leanings. Andrei Chernak, a spokesman for HUR, says that the "existential" danger Ukraine faces means that it cannot be too choosy about whom it collaborates with. Survival is Ukraine's only focus, he said. "We are prepared to work with everyone." ■

French trade unions

Spring in their step

PARIS

Women take over, as a departing male leader contemplates politics

IN MANY RESPECTS, this has been a dreadful year for French trade unionism. A four-month struggle against pension reform has come to little. New rules that raise the retirement age from 62 years to 64 have been forced through parliament, without a direct vote, and written into law. Yet France's unions are upbeat. Why?

One reason is that all eight French unions have stuck together throughout. Another is that the public-sector workers who usually fill the streets have been joined by young people and private-sector employees. Only 10.8% of French workers belong to a union, compared with 23.5% in Britain and 16.3% in Germany. But French unions derive their strength from their ability to pack protest rallies, as well as the strong statutory role they enjoy within firms.



Berger battles on

The most arresting reason involves a change of leadership. In March, for the first time in its 128-year history, the CGT, a union with links to the Communist Party, elected a female leader, Sophie Binet. Aged 41, the one-time student unionist is as relaxed in a television studio as she is behind a megaphone. She also has a knack for the one-liner. In April she mocked an address by President Emmanuel Macron, designed to calm matters after rioting and saucepan-banging protests, by suggesting that it "could have been written by ChatGPT".

Green, feminist and from a white-collar union branch, Ms Binet has her hands full dealing with what has traditionally been a muscular union centred on heavy industry. But this is also what makes her an interesting pick. Ms Binet thinks she can still get the government to shelve the new pension rules. A poll suggests that 60% of the French want the protests to continue. Unions have called a 14th one-day strike for June 6th. The opposition is trying to get parliament to annul the new pension age.

The feminisation of the labour movement is also under way at the CFDT, France's biggest union. After ten years, Laurent Berger will stand down on June 21st and hand over to his deputy, Marylise Léon. In this case, though, it is the departing Mr Berger who is the source of speculation. The son of a shipbuilder and a familiar face at every protest march, he has earned credibility on the left for standing up to Mr Macron and holding the unions' alliance together. Paris swirls with rumours that he is considering a political future.

Asked by *The Economist*, Mr Berger insists he does not want to go into politics "if it's just about giving your name to put on a poster". Yet he is clearly thinking hard about how to create a political space between the radicalised left and what he calls Mr Macron's "hyper-centre". Mr Berger has a new book out about the politics of work. The French left, he says, needs to move on from the idea that "work is misery, alienation, exploitation" and think about how to make it fairer, and more valued.

If Mr Berger does go into politics, he could be a formidable challenger to any centrist successor to Mr Macron. The union leader deplores the way the president imposed pension reform, outrage that taps into a strong popular feeling. Yet he is thoughtful about how work culture needs to change. Mr Berger plans to take some time out to think about the left's future, as well as his own. "Am I going to disappear?" he asks. "Evidently not." ■

Charlemagne | Passing the gas crisis

Europe has shaken off Putin's gas embargo—providing it with lessons on how to deal with China



Weapons come in all shapes and sizes, from the Javelins that blow up Russian tanks to the F-16s Ukrainian aces may soon be flying. As his invasion of Ukraine got bogged down last year, Vladimir Putin, Russia's president, reached for a weapon few imagined he would dare to wield: the throttling of deliveries from Russia's vast gasfields to its main customers in Europe. Particularly for Germany and other countries that had piped the stuff straight into their homes and factories, doom-mongers predicted dire consequences—think double-digit falls in GDP, surging unemployment, not to mention freezing households. Yet Mr Putin's weapon of mass economic destruction has turned out to be a dud. The crisis has all but passed, and far less harm came of it than expected. Once they are done breathing a sigh of relief, policymakers should reflect on what this means as they ponder their next geopolitical challenge: how to "de-risk" the continent's trade with China. If Putin's super-weapon fizzled, how much should Europe pay to rid itself of dependence on China for its imports of everything from rare earths to mobile phones?

In retrospect, the dependence built up by dozy policymakers and short-sighted businesses on Russian gas was reckless: gas accounted for a quarter of energy consumption in Europe, and Russia made up a third of that. Yet the impact of the Kremlin turning off the tap (not entirely, as some Russian gas is still being piped west through Turkey and Ukraine, of all places) fell well short of the "gastastrophe" feared by some. Prices for natural gas in Europe have tumbled from over €300 ($324) per megawatt hour last summer to €30 in recent days. That is high, but back within the normal historical range. Even if prices jump once thermostats are cranked back up come winter, few expect them to spike very much.

How has Europe gone from running out of gas to wondering where it will store the stuff? Benjamin Moll, Georg Zachmann and Moritz Schularick, three economists, recently compared the doom-mongers' vision with reality in Germany. Far from falling into an abyss, Europe's largest economy suffered only the mildest of technical recessions. Some have put this down to luck, notably a mild winter in much of Europe reducing the demand for heating. In fact, the economists find, the weather was in line with recent years. If anything, other factors compounded the effect of missing Russian gas. French nuclear plants turned out to need unexpected maintenance at the worst possible time, for example.

Rather, millions of firms and people in Europe have turned out to be unwitting heroes of making do. "Market economies have a tremendous ability to adapt to changing circumstances," says Mr Moll, a professor at the London School of Economics. Households turned down the heating, at least in countries where politicians did not cap energy prices in a bid to placate voters. Factories once dependent on gas found ways to switch to other fuels. The most power-hungry bits of industry, such as those producing paper, cement, aluminium and some chemicals, were sometimes shuttered. Instead, those products were imported: effectively, an alternative way to bring energy to Europe's shores.

The supply of energy also adapted. New piped gas was found, from Norway, Algeria or Azerbaijan. Given sky-high prices, ships laden with liquefied natural gas (LNG) flocked in. The installation of a new facility to unload such boats was thought to need years, yet Germany pulled it off in ten months. Mothballed coal-fired plants were revived, and renewables installed. Countries far and wide contributed to Europe's energy pivot, too. It can be difficult for a factory in Spain to make do without gas, say. But a utility in Vietnam or China (where demand was muted by covid-19 lockdowns) might have more options, and its cargoes of LNG could be diverted to Europe. The effects can be brutal: Pakistan faced power shortages as its utilities could not outbid gas-starved Europeans.

From Nord Stream to No Stream

Europe will not soon come to depend on Russian gas again—not least because the Nord Stream pipeline that brought lots of it was blown up by an unknown party in September. But the episode has spooked politicians into thinking about which other nefarious powers might one day hold them to ransom. Prompted in no small part by America, Europe wants to ensure it is not beholden to China. What good is defusing the Russian gas weapon if it is replaced with a similar dependence on Chinese solar panels?

One coping mechanism is to replace imports with stuff made in Europe. This idea, popular with trade sceptics in France, gained ground during the pandemic, when the EU ran short of facemasks and paracetamol. Voters were promised that production would be "reshored". Thus mask factories popped up in France (now gathering dust); a paracetamol plant is in the offing, backed by millions in state aid. The Russian gas imbroglio has increased the list of products statists think Europe should make at home. Targets have been set, Soviet-style, for various sectors. The largesse for microchip and battery plants can already be counted in billions.

The other approach is to keep buying from abroad, but diversify. Businesses that would herd to a single country's suppliers, often Chinese ones, can be nudged to new shores. Under the impetus of more liberal (ie, less French) forces in Brussels, this is being mooted: public tenders for renewables projects, for example, will be penalised if products are sourced from a country that supplies more than 65% of the EU market. That will induce firms to look beyond the usual Chinese factories. Because the effect is gradual and harnesses market forces, it will be far less costly.

The Russian gas embargo that failed is a useful reminder that economies are more adaptable than politicians think. But recession was averted in part thanks to expensive bungs from government. All the more reason for the right lessons to be learned. It pays to think where your stuff comes from. But some ways of derisking are smarter than others. ■



Law and politics

Tribulations and trials

NEW YORK

How Donald Trump's trials and the Republican primary intersect

ONLY FOUR qualifications are necessary to become an American president. Article II of the constitution requires presidents to be natural-born citizens who have reached 35 years of age and lived in America for 14 years. The 22nd Amendment adds that candidates must not have been elected twice to the job previously. Donald Trump satisfies those conditions, including the final hurdle—despite his insistence that he won both the 2016 and 2020 elections. Nothing prevents candidates dogged by legal troubles, including criminal convictions, from running for president. Several presidential aspirants have even sought the office from behind bars.

The cases and the primaries will overlap in ways likely to set the rule of law against the will of the people. This month Mr Trump was found liable for sexually assaulting and defaming E. Jean Carroll (he is appealing against the judgment). He may soon owe more than the $5m the jury ordered him to pay, as Ms Carroll's lawyer is asking for new damages stemming from Mr Trump's doubling-down at an appearance on CNN the day after the verdict.

Jail time is a risk, too. Mr Trump became the first former president to be criminally indicted on April 4th when he was charged with 34 counts of falsifying business records in a Manhattan courtroom. The indictment involves an alleged cover-up, just before the 2016 election, of payments to hide alleged trysts with Stephanie Clifford, an adult-film actress (also known as Stormy Daniels) and Karen McDougal, a model. According to Alvin Bragg, the Manhattan district attorney, Mr Trump illegally concealed hush-money cheques to Mmes Clifford and McDougal as well as to Dino Sajudin, a former doorman at Trump Tower who allegedly knew about a child Mr Trump had fathered out of wedlock.

On May 23rd the judge in *The People of the State of New York v Donald J Trump* announced that the trial will begin on March 25th 2024, two months into primary season. The Republican front-runner will therefore be campaigning in 15 states for Super Tuesday delegates three weeks before standing trial in New York and, as proceedings begin, preparing to woo voters in about 20 more states. Mr Trump could serve up to four years in prison for each of the 34 counts. But few first-time offenders on these charges are put behind bars. And some legal experts have doubts about Mr Bragg's strategy. Falsifying records is a misdemeanour under New York law; turning those charges into felonies requires piggy-backing them on another crime.

Mr Trump's attention may be further divided in the primaries—and, if he prevails, in the general election—by indictments in other criminal matters. Georgia Republicans hold their primary on March 12th. By then, Mr Trump may be preparing for a trial focused on allegations that he sought to swing the Peach State in his favour after the 2020 election. A year ago, a special grand jury began considering evidence that Mr Trump and his allies may have made "unlawful attempts to disrupt the administration of the 2020 elections". The former president sought help from Brad Raffensperger, Georgia's secretary of state, to ▸▸

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"find" nearly 12,000 votes to reverse Joe Biden's victory there. The probe has also looked into the Trump team's efforts to recruit a fake group of electors to present to the vice-president, Mike Pence, when he counted electoral votes on January 6th.

Fani Willis, the Fulton County district attorney, appears ready to move forward with indictments over the summer. The head of the special grand jury said in February that she and her fellow jurors recommended charges for as many as a dozen people—including, she hinted, Mr Trump. Ms Willis will submit evidence to a regular grand jury in late July. Indictments are "highly likely" to appear in August (which is when the first primary debate is scheduled), says Ryan Goodman, of New York University, but the case may be "tied up in pre-trial litigation" for some time.

The Department of Justice has been gathering evidence on two sets of similarly serious potential charges. Both are in the hands of Jack Smith, the special counsel appointed by Merrick Garland, the attorney-general, in November. Mr Smith is investigating Mr Trump's efforts to overturn the 2020 election and his role in the January 6th insurrection. Last month Mr Pence testified before a grand jury in this probe. And Mr Smith appears poised to charge Mr Trump in connection with troves of classified documents the former president removed from the White House and brought to Mar-a-Lago, his Florida home.

After a few months' delay from a federal district-court judge's decision to appoint a "special master" to sift through the documents, in December an appeals court put an end to the hold-up and delivered all the files to Mr Smith. He seems to have broadened his sights. He recently issued subpoenas looking into Mr Trump's business dealings with seven foreign countries stretching back to 2017. The new line of inquiry could be spurred by an attempt to explain why Mr Trump took all those files with him when he left the White House. Joyce Vance, a law professor at the University of Alabama and a former US attorney, predicts charges in the documents case "before the summer vacation season hits".

At every turn, Mr Trump has condemned investigators for unfairly targeting him. In a letter to Mr Garland on May 23rd, his lawyers accused Mr Smith of bias. "No President of the United States has ever, in the history of our country, been baselessly investigated in such an outrageous and unlawful fashion," they write, before requesting a meeting with the attorney-general to discuss the "injustice that is being perpetrated by your Special Counsel".

The accumulation of cases against Mr Trump could yet hurt him. But, so far, their impact among Republicans has been quite the opposite. It has fired them up, not led them to say: "You're fired!" ■

Contraception

Solidarity snips

Vasectomy procedures rose after the *Dobbs* ruling

Dr Doug Stein estimates that he has performed around 50,000 vasectomy procedures. He has been practising urology for 40 years, but still, achieving that impressive tally has meant "a lot of sunny Saturdays in windowless rooms hovering over scrotum", he explains. Dr Stein's experience and reputation, built up over the decades, make him a popular choice for Floridian men looking to get the snip. But in the summer of 2022 demand for his services suddenly surged.

On June 24th last year the Supreme Court issued its ruling in the case of *Dobbs v Jackson Women's Health Organisation*, reversing its decision in *Roe v Wade*, and allowing states to ban abortion. Dr Stein saw registrations from potential vasectomy patients almost triple the next week.

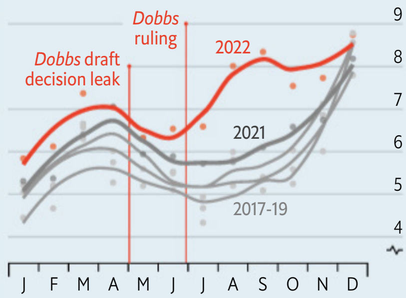
It wasn't just interest in the procedure that soared. Data on insurance claims from Komodo Health, a health-care-technology company, shows that in the second half of 2022 vasectomy rates across America were far higher than in previous years. Accounting for previous trends, *The Economist* calculates that the *Dobbs* ruling was associated with a 17% increase in procedures in the six months after the ruling, and a 29% increase between July and September.

The number of vasectomies has been on the rise. Between 2017 and 2021, the rate at which surgeries were performed increased by an average of 4% each year. But the number of American men who report having had the procedure is lower than it was 20 years ago (and vasectomy rates still lag far behind rates of tubal ligation, the more invasive equivalent for women). In 2002 national health surveys estimated that 6.9% of the male population aged 18-45 had been snipped. The most recent round of surveys, carried out between 2017 and 2019, put the figure at 5.4%.

Urethra moment

United States, vasectomy procedures

Per 100,000 population



Source: Komodo Health

We estimate that around 20,000 extra men chose to undergo the short, mostly painless, surgery between July and December 2022. Normally, the number of procedures peaks towards the end of the year, when patients are more likely to have reached their insurance deductible (although this is probably overstated in our data, which do not capture vasectomies paid for in cash). Surgery rates also get a boost in March, which some urologists market as "vasectomy season", a time when men can spend the day or two needed for recovery from the procedure watching March Madness basketball.

The bump in vasectomies following *Dobbs* could be seen in 46 states. The rise was larger in states with "trigger bans", where abortion was severely limited right after the ruling. There, the average increase between July and September was 41%, compared with 26% elsewhere. In Arizona, Florida, Georgia, Tennessee, Texas and Utah rates rose by more than 40%.

As well as being clustered in more conservative states, these new post-*Dobbs* patients also tended to be younger than the normal vasectomy candidate. Data from Komodo show that, across the country, there was a small but consistent drop in the average age of patients in the second half of 2022. In Dr Stein's practice, the number of childless men under 30 who opted for the procedure has increased by around 50% since the ruling.

What is it about restricting abortion access that has driven men to the operating table? Among his patients who reported that they were motivated by *Dobbs*, Dr Stein says they tended to cite one of three reasons. Some worried that, without access to abortion, they lacked a genuine backup if their primary contraception method failed—vasectomy has a success rate of more than 99%. Others, who had been considering the procedure for a while, were apparently spurred by a concern that vasectomy could be outlawed next. A final set of men saw their surgery as an act of solidarity with women.

Vasectomy often represents a sacrifice. Like any surgery, it involves recovery time and risk of complications, however small. And for many men there are also misconceptions and concerns about how the procedure might affect their sense of masculinity. But making the sacrifice lifts the burden of responsibility for contraception from women. Studies have shown that high rates of vasectomy tend to go hand in hand with gender equality. Overturning *Roe v Wade* has been a brutal blow for women's rights in America. The rise in vasectomies may be one very small consolation. ■



San Francisco

Deciphering the "doom loop"

SAN FRANCISCO

Downtown is at a tipping-point

MANY IMAGES have symbolised San Francisco over the years. Fog enveloping the Golden Gate Bridge. Hippies tuning in and dropping out on Haight Street. Tents lining the pavement. These days, a "Retail for lease" sign in a vacant storefront seems appropriate. San Francisco itself has become a symbol, too, though what it represents depends on your politics. It is a hub of technological innovation or a bastion of inequality; a laboratory for the country's most progressive policies or a fief of the radical left. No mid-size American city—San Francisco has fewer people than Indianapolis—has had a bigger effect on global culture or financial markets.

But with stardom comes scrutiny. When you're famous, everyone likes to kick you when you're down, says Marisa Rodriguez, of the Union Square Alliance, the business-improvement district for downtown's luxury shopping area. Local and national media are publishing obituaries for the city. Local officials decry the coverage, but they also admit that something is deeply wrong. "San Francisco has had what felt like an endless, year-after-year boom," says Aaron Peskin, president of the Board of Supervisors, the city council. "And now the bubble really burst."

There are two groups of problems. The first is characterised by homelessness, drug overdoses and property crime. Nearly 7,800 people are homeless in San Francisco, slightly fewer than in 2019, but higher than at any other time the city has counted since at least 2005.

Local leaders point to Los Angeles or Seattle as proof that theirs is not the only pricey west-coast metro area unable to care for its vulnerable citizens. That is small consolation. All three cities have some of the highest rates of homelessness in the country. The difference is that San Francisco is more densely populated. Nearly 42,000 homeless people live in Los Angeles, but in neighbourhoods across the sprawling city, from Skid Row to Venice Beach. A high share of San Francisco's rough sleepers are in a single neighbourhood, the Tenderloin, next to downtown.

The second problem is financial. "When the pandemic happened, a good portion of San Francisco was able to literally pick up their laptops and go home," says Rodney Fong of the city's chamber of commerce. The University of Toronto has been measuring pandemic recovery in 63 American downtowns, since March 2020, by comparing mobile-phone use in city centres with pre-pandemic numbers. San Francisco's recovery ranks last. The office-vacancy rate is nearing 30%, a record high.

These woes could spread beyond the city centre. Downtown generated at least 75% of the city's GDP in 2021, and city revenues depend on downtown property and business taxes. As that pot of money shrinks—property taxes paid by offices could decline by up to 35% by 2028—the city will not be able to provide the same services. People and firms may leave, perpetuating the cycle. The *San Francisco Chronicle* calls this the city's potential "doom loop".

The doom loop is not inevitable, but avoiding it would take investment at a time when the city faces a $780m deficit, almost 6% of the annual budget, over the next two fiscal years. Local officials want the state to prop up the Bay Area subway system, BART, which ferries people downtown, but Gavin Newsom, California's governor, has to plug a $32bn budget shortfall of his own. "It's hard when your best-case scenario is bad," says Ted Egan, the city's chief economist.

Some things may yet stop the bleeding. The city's network effects are diminished by the rise of other tech hubs, but remain mighty. Several leading AI startups are based in San Francisco, including OpenAI, which created ChatGPT. The Bay Area still gets more venture-capital funding than any other region, though its share of the pie is shrinking. Mr Peskin wants to incentivise firms to convert offices into apartments. But in the meantime, things look grim. Mr Egan says he recently visited a class of Stanford University students who were discussing their post-college plans. "How many of you are moving to San Francisco after you graduate?" he recalls their professor asking. Incredulous, they responded: "Why would anyone do that?" ■

Drug pricing

Problem solved?

WASHINGTON, DC

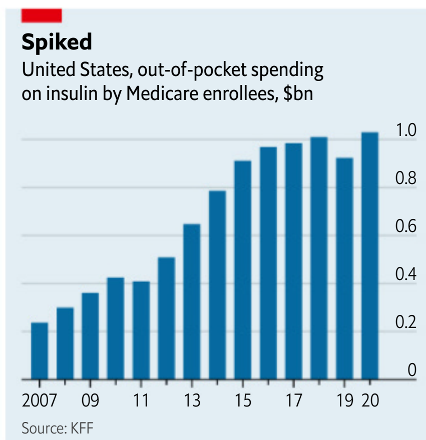
Insulin is cheaper, but some struggle to get it at a price they can afford

"MOVE TO THE back if you've lost your life savings to the drug companies," shouts a woman walking by your correspondent. A spirited group follows her to the end of a long queue for a Senate hearing on insulin prices on May 10th. In the room David Ricks of Eli Lilly, a large American drug firm, testifies that insulin, used to regulate blood-sugar levels for diabetics, is cheap and even free in some instances. "If you contact Lilly today, we will ship you a month's supply at no cost with one question: 'What's your address?'" he says. Those dressed in gear with slogans like "Insulin for All" shake their heads in disbelief. Drug companies may be offering cheap insulin, but it is not reaching all patients.

The high price of drugs is a long-running grievance for Americans—and insulin is a flashpoint, since more than 8m of them depend on it to survive. A standard unit that costs on average $9 in other rich countries sets Americans back $99. A study in 2021 in the *Annals of Internal Medicine*, a journal, found that 1.3m people skipped or reduced insulin doses due to cost.

According to GoodRx, a company that helps customers find low drug prices, the average cash price of insulin rose by 54% between 2014 and 2019. The price then dropped by 11% between January 2020 and May 2023. Despite the recent dip, insulin prices remain high.

For older patients, the cost is now coming down. The Inflation Reduction Act, one of President Biden's landmark laws, allows Medicare to negotiate with manufacturers for lower drug prices. It also requires companies to pay back Medicare if prices rise faster than inflation, and it capped insulin ▸▸



prices at $35 a month for Medicare.

The new law seems to have nudged drug companies into offering lower prices for everyone. On March 1st Eli Lilly announced an automatic $35-a-month cap on all insulins for those with private insurance at select pharmacies, and a similar programme for the uninsured. The firm also promised to sell one of its non-branded insulins for $25 a vial, from May 1st. Sanofi, a French drug company, followed suit with a similar deal for one of its insulins, starting next year. Novo Nordisk, a Danish firm, likewise announced lower prices for 2024.

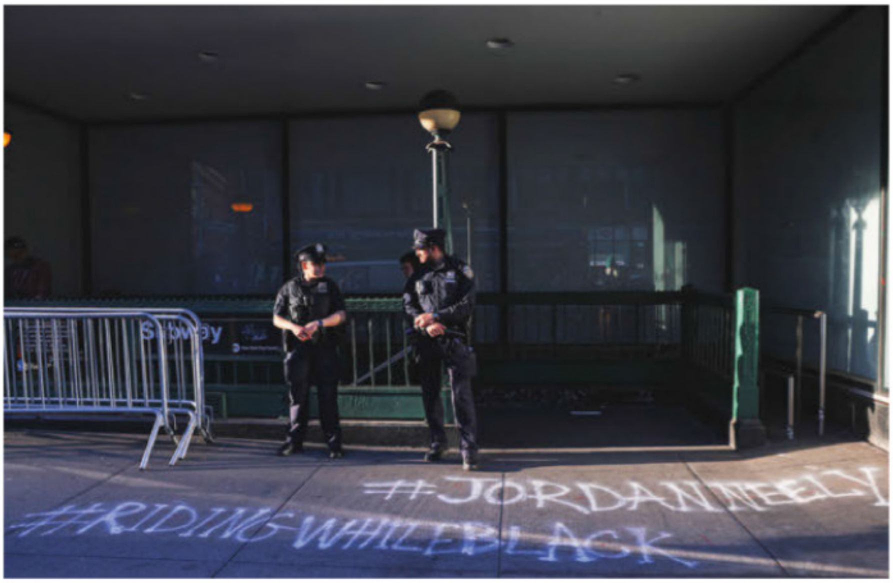
These deals are eye-catching, but when patients turn up at pharmacies, they may find they cannot grab a bargain. Shaina Kasper of T1International, an advocacy group for diabetes patients, is a type-1 diabetic. She says she tried to buy Eli Lilly's non-branded Insulin Lispro, the specific drug available from May 1st for $25. Her pharmacy in Vermont quoted her $90.

Perhaps Eli Lilly's programme needs time to work out the kinks, or the pharmacy charged more on top. But this is not the first time such a scheme has caused problems. For years pharma firms have offered a patchwork of plans to help customers afford insulin and other drugs. Some are for almost anyone, others for the poor or uninsured. But they tend to be difficult for people to access, says Stacie Dusetzina, a drug-pricing expert at Vanderbilt University.

First patients must be aware that the scheme exists and that they are eligible, which is often unclear. Then they must jump through hoops. Some need applications, doctor's notes, proof of residence, tax documents and more. Pharmacies must also know about the programme and participate in it. It can be hard to know whom to blame—the drug companies for the faulty deals or the pharmacies for failing to implement them properly.

These programmes can also end at any time. "What the Lord giveth, the Lord can taketh away," says David Mitchell of Patients For Affordable Drugs, an advocacy organisation for patients. That is why Mr Mitchell and others are pushing for laws to lower drug prices rather than relying on a mishmash of special schemes.

Some states have given up on waiting. Colorado was the first to pass a cap on insulin, at $100 a month, in 2019. Since then nearly half of states have introduced caps, but these cover only state-regulated health plans. In March Gavin Newsom, the governor of California, announced that he had signed a contract with a manufacturer to make and distribute insulin to Californians for $30. Maine, Michigan and Washington may follow. There are also bills in Congress to tackle insulin prices and increase access to generics. Perhaps insulin's cost will eventually come down further and become more predictable. ■



Policing America

The too few and the less proud

MINNEAPOLIS

Since George Floyd's murder, policing has changed. It needs to change more

Talk with Chris Thomsen and Rick Zimmerman, two longtime homicide investigators with the Minneapolis Police Department (MPD), and they'll tell you their job has changed markedly over the past three years. Restrictions now forbid officers from stopping drivers for expired tags or something dangling from a rear-view mirror; those stops often yielded guns, drugs or people evading arrest warrants. A chokehold ban and body-worn-camera footage of every interaction mean officers worry that accidental contact with a suspect's neck during a physical altercation could be grounds for a lawsuit or dismissal. Prosecutors and jurors used to defer to cops' words in court; now they demand video or audio evidence.

But talk with Dave Bicking and Emma Pedersen—members of Communities United Against Police Brutality, an activist group—and they will tell you the opposite. The city council vowed to "defund the police"; instead the MPD's budget has grown. Police killings, Mr Bicking asserts, "go on at the same rate as always". The MPD's culture, says Ms Pedersen, is "getting worse".

These two poles define a roiling debate. Leftists argue that policing has changed far too little since a Minneapolis police officer murdered George Floyd three years ago. Police killings in America rose from 2020 to 2021, and again from 2021 to 2022. Politicians who promised reform have backtracked; changes have been cosmetic. Conservatives argue that public suspicion of police and policy changes driven by progressive politicians have hamstrung law enforcement, leading directly to a rise in violent crime. The consensus that 30 years ago led politicians from both parties to espouse "tough on crime" rhetoric and policies has disappeared. As in so much else in American life, the centre has not held.

What is beyond dispute, however, is that big-city departments across the country face shortages. Minneapolis had over 900 officers at the time of Floyd's murder. As of May 6th it had just 583, well below the 731 required by the city's charter. Baltimore, which in 2022 had more than 1,000 homicides and non-fatal shootings, lost nearly 157 officers that year, and is short more than 500. Between 2011 and late 2022, the size of Memphis's police force shrank by nearly one-quarter; some wonder whether that contributed to the widely seen beating death of Tyre Nichols by lowering the department's hiring and training standards.

Nationally, between April 1st 2020 and March 31st 2021 (the most recent period for which data are available), resignations rose by 18% and retirements by 45% year-on-year. Some of those departures were expected: the Violent Crime Control and Law Enforcement Act, passed in 1994 and championed by then-Senator Joe Biden, funded the hiring of tens of thousands of officers, many of whom are now at retirement age. Though critics now decry that ▶▶

bill for fuelling mass incarceration, at the time 49% of whites, 58% of African-Americans and a majority of the Congressional Black Caucus supported it.

A related phenomenon has seen officers transfer from departments in big cities with high crime rates to agencies in wealthier, smaller cities with less crime, a lower cost of living and higher salaries. According to the *New York Times*, the New York Police Department saw more resignations last year than at any time in the past two decades. At least 14 of the department's officers moved to Aurora, Colorado; others have accepted $5,000 signing bonuses to move to Florida.

This leaves departments short-staffed, which means officers have to work more overtime with less supervision; that combination, notes a veteran west-coast officer, leads to "more stress and bad decisions on the street". And the more cases that pile up, the harder it gets to solve them: officers lack investigatory time, leads go cold, newer cases assume greater importance.

Compounding the problem of mass departures is that hiring has not kept pace: from April 2020 through March 2021 the hiring rate actually declined by 5%. A poll of 10,000 police officers taken in June 2020 found that just under 17% were either "extremely satisfied" or "pleased" to be in law enforcement, and only around 7% would recommend that their child go into it. For that state of affairs many blame a changed national attitude towards police. "It used to be that policing was a job for helpers, it's honourable," says one veteran officer. "Now the story is that policing is an inherently racist institution, and if you go into policing you're complicit in supporting structures of white racial hegemony."

Art Acevedo, who headed the Austin, Houston and Miami police departments and is now interim chief in Aurora, Colorado, said that "the push by some elected officials to defund the police…had an impact on recruitment and retention." That shift in attitudes did not begin with Floyd's murder: the shooting of Michael Brown, a young black man, by a police officer in Ferguson, Missouri, in August 2014 also sparked widespread protests, though Barack Obama's Justice Department, after an extensive investigation, found the officer's actions were not "objectively unreasonable", and declined to press charges. But Floyd's death pushed previously fringe positions, such as police defunding and abolition, to the fore.

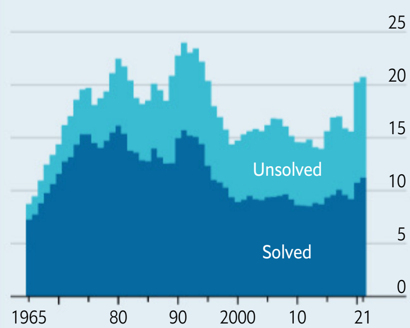
Peter Moskos, a sociologist and former Baltimore beat cop who now teaches at John Jay College of Criminal Justice, said that "pre-George Floyd, reformers would work with the police." He sees much of the post-Floyd legislation—such as limiting when police can stop drivers, as San Francisco has done, or eliminating most cash bail, as New York has done—as coming from activists who see policing as malign. "The idea that you can reform police in opposition to the police is crazy."

The public's appetite for reform seems to be waning. San Francisco's voters recalled Chesa Boudin, their reformist chief prosecutor; Seattle's elected a tough-on-crime Republican prosecutor over a far-left candidate. In late February Ron DeSantis, Florida's Republican governor, made a pre-presidential-campaign trip to Illinois, New York and Pennsylvania to talk up his tough-on-crime credentials. Perhaps sensing the shifting political winds, the following week Mr Biden disappointed progressives by refusing to veto Congress's repeal of a crime bill that would have reduced sentences for some offences.

Yet the ground on which police operate has changed. Ten years ago, police facing a crime spike might have embarked on a "flood-the-zone" strategy: pour officers into a neighbourhood with a lot of violent crime, and start arresting people and writing tickets to show "zero tolerance". That strategy will no longer work. Some of those arrests will involve displays of force that, thanks to mobile-phone cameras, will end up on social media. More importantly, ticketing and bothering law-abiding citizens for jaywalking or drinking a beer on a street corner will turn the community against police, and police need community trust and witnesses' help to solve crimes.

Goodness gracious that's why it's a mess

People in crime-ridden communities do not say they want to defund or abolish the police. They want better, more accountable policing. That starts with better training. Whereas military officers get four years of training and education in an institution such as West Point or the Naval Academy, police officers get an average of 20 weeks in their academy, often with a few months of field training afterwards. Military tours in active duty generally comprise a minority of a career officer's time; many patrol officers spend almost their entire career deployed. In-career training is often cursory: California, for instance, requires officers to undertake just four hours of use-of-force training every two years.



Getting away with murder
United States, homicides, '000
Source: FBI Uniform Crime Reports

National training standards are non-existent, largely because America's police forces, unlike those of most other countries, are decentralised, run at the state and local level. But better training will require more money, both for its direct costs and to ensure that forces have enough active officers to cover those getting trained.

That may be a tough sell. Left-leaning politicians sceptical of police may be unwilling to teach officers how to use violence more effectively, even though, in the long run, it could save lives. A recent study conducted in Cambridge (Massachusetts), Houston and Tucson found that well-trained officers reduced offences in crime hotspots better than officers who received standard police training.

But the most important thing police could do to bring down the violent-crime rate is to catch more violent criminals. Nationally, just over half of all murders, and less than half of other violent crimes, go unsolved (see chart). By contrast, more than 95% of murders are solved in South Korea and Japan, as well as 80% in Sweden, 87% in Switzerland and 98% in Finland.

Some departments, recognising that solving murders often requires sifting through massive amounts of data, have begun hiring civilian data analysts, who trawl digital traces while homicide detectives talk to witnesses and chase down leads. Others have focused investigative resources on places—trouble tends to occur in remarkably small geographical areas—rather than simply reacting to crimes after they occur.

Whatever path departments choose to follow, they will need to hire more people to walk it. That will require young folk who see policing as a desirable, honourable occupation. And politicians, especially in big, liberal cities, will need to recognise that police have an essential role in keeping the public safe.

That does not preclude holding police accountable. Officers, says Jacob Frey, mayor of Minneapolis, "need to be paid more, fired more and trained more": the first to attract good recruits to a dangerous, necessary job; the second to ensure that those who abuse their badges can be got rid of; and the last to keep them effective.

Police must accept increased scrutiny and oversight. And politicians, argues Michael Shellenberger, an author and activist who ran for governor of California in 2022, need to do more than just promise to fund the police. They need to make it clear that they are valued, like teachers and firefighters. Yes, "there are some bad actors," but "it's a noble profession full of people who want to do the right thing." ■

Lexington | Florida man

Ron DeSantis is a more formidable ideologue, if a lesser politician, than Donald Trump



As given voice by Donald Trump, American right-wing populism has sounded more like a howl of rage or a whine of self-pity than a rational plan for the country's future. When he ran for re-election, the Republican Party could not even bring itself to write a platform. "Trumpism" blurred boundaries between his policies and his needs and interests, distinctions that vanished as his obsession with his loss in 2020 consumed his message. Reactive and emotional, Mr Trump has reigned as the id of populism, and that has made him dangerous to democracy. Ron DeSantis, the chilly, cerebral governor of Florida, has an outside chance of becoming its superego, and thus dangerous to the Democrats.

Mr DeSantis may wind up as just another speed-bump under Mr Trump's relentless wheels. But more than any other Republican, he has extracted a coherent agenda from the jumble of Trumpian fears and hostilities, pointing the way towards a Trumpism without Trump. And if that has worked in Florida—a diverse state and once a political toss-up that has gone solidly Republican under Mr DeSantis—Democrats would be unwise to dismiss its appeal. Mr DeSantis's zeal for culture war is not a sideline to this potential successor ideology. It is the unifying principle.

The end of the cold war was hard on American conservatism. Anti-communism had served as what the writer William F. Buckley called the "harnessing bias" of the movement. With the Soviet Union gone, old divisions began widening again between libertarians and religious conservatives. Isolationism, protectionism and nativism, conservative strains that retreated at the outbreak of the second world war, began creeping back.

George W. Bush's war on terror held them in check for a time, dangling the prospect of another unifying struggle against an ideological foe. But it was not to be. "If the Vietnam war splintered the Democratic coalition, then the 2003 Iraq war fractured the Republican one," writes Matthew Continetti in "The Right", a history of the conservative movement. "Conservatism was never the same after the first improvised explosive device detonated in Baghdad."

The financial crash further discredited establishment Republicans like the Bushes, with their contentment with trade, immigration and Wall Street. The ferocity of the Tea Party's opposition to President Barack Obama obscured its comparable disdain for establishment Republicans. Then came Donald Trump. He rolled over Jeb Bush with a message of contempt for elites and the institutions they dominated. They were all corrupt, dispensing money and privilege to insiders, and only he could fix it.

Mr DeSantis shares Mr Trump's lack of humility but not his lack of discipline and understanding of government. A Harvard lawyer who served in Iraq and then for three terms in Congress, Mr DeSantis is the thinking Republican's populist. He shares with progressives a conviction about the primacy of "narrative" in entrenching power. But he argues that the left has taken control of America's core narratives through undemocratic means, by seizing cultural and corporate institutions, and is telling stories that warp young minds and curtail freedom. America's institutions are not just corrupt; they are insidiously corrupting.

More clearly than Mr Trump, Mr DeSantis has defined an ideological foe to rally conservatives and provided them with a plan to fight back. In his telling, leftist ideology has infiltrated the federal bureaucracy, public schools, universities, news media and major corporations in much the way conservatives once feared communism had. "Because most major institutions in American life have become thoroughly politicised, protecting people from the imposition of leftist ideology requires more than just defeating leftist measures in the legislative arena," Mr DeSantis writes in his memoir, "The Courage to Be Free".

Mr DeSantis appears to be channelling an adviser he cites elsewhere in his memoir, Christopher Rufo, a senior fellow at the Manhattan Institute who has called for "laying siege to the institutions". In one display of this besieging mentality, Mr DeSantis appointed Mr Rufo to the board of trustees of New College, a progressive school in the Florida state system, to help change its leadership and curriculum. Mr Rufo quickly moved to eliminate diversity, equity and inclusion initiatives. Students have protested against the changes. But they will graduate and move on, and in time Mr DeSantis's preferred narratives will probably take hold.

Every day he rewrites the book

Opportunistic rather than ideological, Mr Trump has been attacking Mr DeSantis from the left on entitlements (saying that Mr DeSantis wanted to cut them), from the right on taxes (that he wanted to raise them) and from the left again on abortion (Mr DeSantis's six-week ban is "too harsh"). Mr Trump has even risen to the defence of corporations that Mr DeSantis has accused of abetting leftist indoctrination. Mr DeSantis has been calling Mr Trump a loser, though without naming him. "We must reject the culture of losing that has infected our party in recent years," the governor said in a recent speech in Iowa. Yet this creates a box for Mr DeSantis: will he say outright that Mr Trump lost the 2020 election?

Mr DeSantis is a glowering glad-hander. He comes off as humourless. Should he win the nomination, Democrats think his bullying demeanour and culture-warring will repel suburban and independent voters. That may be right.

But the governor, a quick study, may overcome the klutzy start to his campaign (snafus marred its launch on Twitter) and grow as a candidate. At 44, he would accentuate Joe Biden's seniority. His high job-approval rating in Florida suggests voters there have not concluded he is an extremist. Given a microphone to voice his own narrative, Mr DeSantis has a knack for making his resistance to progressives on matters such as gender sound like common sense. For Democrats and their real influence over cultural institutions, the story of Ron DeSantis may not have a happy ending. ■



Elections in Mexico

The race to succeed AMLO

MEXICO CITY

Mexico could elect its first female president next year

On June 4th voters in the state of Mexico, the most populous in the country of the same name, will elect a new governor. The vote is widely seen as a testing ground for general elections due next year. Delfina Gómez, a former education minister, is polling far ahead of her rival. If she wins, it will suggest her party, Morena, is well positioned for next year's polls. Morena was founded by Andrés Manuel López Obrador, Mexico's leader. He cannot run again. As a result the presidential vote next year could see another woman win big: Claudia Sheinbaum, the mayor of Mexico City. She would be the first female head of state. But she could struggle to shake off the legacy of Mr López Obrador, her mentor.

When Mr López Obrador won the election in 2018, with 53% of the vote, it appeared to mark a sea-change in Mexican politics. For decades the country had been dominated by the Institutional Revolutionary Party (PRI), a centre-right party that ruled Mexico for 71 years until 2000. Opposition had been provided by the National Action Party (PAN), a conservative group that held the presidency for two terms from 2000 to 2012, and the Party of the Democratic Revolution (PRD), a left-wing outfit. By 2018 many voters fed up with the status quo felt hopeful that Mr López Obrador could deliver change. He promised to end corruption, reduce inequality and tackle gang violence.

Once in power Mr López Obrador began executing his political project, a contradictory mix of policies he grandly calls the "Fourth Transformation". They combine a penchant for 1970s-style nationalism with fiscal hawkishness. Although the president's rhetoric sounds left-wing, his policies are a more complicated mix. He did away with Mexico's health-care system for the uninsured, scrapped child-care subsidies for working mothers and canned a conditional cash programme for the poor.

His main instinct is statism. The president boosted the state oil and electricity companies at the expense of clean energy, including by building a new oil refinery. He also wants to nationalise Mexico's lithium. He handed sweeping power to the armed forces, and has tried to undermine the Supreme Court and the electoral body. On May 19th he expropriated a railway from Grupo México, a mining company. On May 24th Citigroup, an American bank, announced it would abandon a deal to sell Banamex, a Mexican retail bank, to Grupo México. It was unclear if Grupo México had pulled out because of the expropriation, or if Citibank had decided not to go ahead because of frequent comments made by the president in public about the sale.

Despite this ideological ragbag of policies, the president is popular. Fully 65% of survey respondents approve of him. That is higher than any recent Mexican president at a similar point in their terms (see chart on next page). Many investors are put off by Mr López Obrador. But the country is faring better than other countries in Latin America, such as Brazil. Its proximity to the United States helps, making it a beneficiary of "friend-shoring", as do Mexico's 13 trade agreements with 50 countries.

Ms Sheinbaum is not the only contender to be Morena's candidate for the presidency. Her closest rival is Marcelo Ebrard, the foreign minister. He is "the firefighter-in-chief" for Mr López Obrador's government, says someone close to him. His ministry leads talks with the United States on everything from migration to energy. After Mr López Obrador initially refused to condemn Vladimir Putin's invasion of Uk- ▸▸

→ Also in this section
42 A power struggle in Brazil

raine, it was Mr Ebrard who reassured President Joe Biden's administration that Mexico remained an ally. His diplomacy also ensured that Mexico received vaccines during the pandemic. Until recently, he was better known among Mexicans than Ms Sheinbaum.

However, Ms Sheinbaum enjoys a widening lead over Mr Ebrard. Opinion polls place her eight percentage points ahead of him. It helps that she is the president's preferred candidate. For several months Morena's activists have plastered signs declaring "Es Claudia" ("It's Claudia") across the country—possibly in violation of Mexico's strict campaign laws.

Her nomination seems assured. Mr López Obrador says Morena's candidate will be decided by two surveys this summer. But concerns abound about their fairness, such as over which company will run them and what questions the public will be asked. Many worry, including some within Morena, that the process will be akin to that under the PRI, when the leader chose his successor, a process known as the *dedazo*, or big finger. "This is the *dedazo* in disguise," says Mariel Ibarra, a journalist.

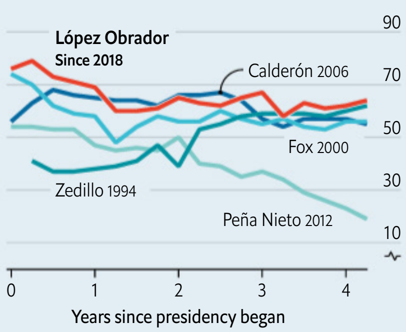
A tricky inheritance

But Ms Sheinbaum is a competitive figure in her own right, too. Mayors of Mexico City enjoy national prominence because they govern 7% of the country's 126m people, who generate 15% of its GDP. For the most part she has done a good job. On her watch murders almost halved between 2018 and 2022, compared with a national fall of 8%. She has attempted to clean up the state police force by paying them a decent wage. In a country where politicians are dogged by allegations of graft, she is seen as clean.

Ms Sheinbaum tends to take a rational approach to policymaking. Unlike the president, she surrounds herself with competent people and is willing to take advice. During the pandemic she quietly distanced herself from Mr López Obrador, relying on data, masks and free tests to control covid-19 while he declared, mask-free

Top of the pack

Mexico, presidents' approval rating, %



Source: Americas Society/Council of the Americas

All enveloping

Mexico, governing party by state, May 2023



Source: Mexico Electoral Institute

from his pulpit, that there was no need to worry. (Mexico's absolute death toll was among the highest in the world.) Over the past five years her administration has built centres around the capital to help poor people to study and to access services.

Assuming she secures the candidacy, the election looks like Ms Sheinbaum's to lose. In 2018 the three main opposition parties (the PRI, PAN and PRD) formed a coalition known as Va por México. The coalition is running again, but no one contender has emerged, while their main message is that they are not Morena. "We need to do more than be the option that voters hold their nose to vote for," says Fernando Belaunzarán, a former PRD lawmaker.

Citizens' Movement, a left-wing party that holds the governorships of Jalisco and Nuevo León, two important states, has a well-liked figure in Luis Donaldo Colosio, the son of a popular reformist PRI presidential candidate who was murdered in 1994. However, he has said he will not run. Mr Ebrard would be competitive were he to break with Morena, but few reckon he will.

If Ms Sheinbaum becomes president, how different would she be from her mentor? So far, she appears to be sticking fairly closely to Mr López Obrador's contradictory ideology. It is hard to imagine that the mayor, who holds a doctorate in energy engineering, agrees with the president's approach of favouring the national oil and power companies over clean and cheap power. But she has defended this signature part of the president's platform. Similarly, Ms Sheinbaum has blamed "neoliberal" economic policy for Mexico's inequality and criticised the electoral body. She may be tempted to follow Mr López Obrador's lead and boost social handouts that buy loyalty but do not solve poverty.

Some policies would be hard to reverse. Mr López Obrador has deepened the involvement of the armed forces in fighting crime. He has also handed over 70 civilian functions to them, according to a study by Mexico United Against Crime, an NGO. Soldiers now control the ports and customs facilities, and will build, run and keep the profits from airports and a new tourist train. Ms Sheinbaum is unlikely to be able to remove these privileges, even if she wanted to. But she has also used the same playbook: she deployed the National Guard, a notionally civilian organisation that has replaced the federal police, to help run Mexico City's subway system after several crashes in 2021, to the outrage of subway workers.

It is doubtful, however, that Ms Sheinbaum will continue Mr López Obrador's attempts to undermine the Supreme Court. Partly that is because she will not enjoy his political strength. She will find it harder to lead Morena, which is more a fan club for Mr López Obrador than a political party. She is also likely to preside over a more divided Congress: analysts predict 2024 will mirror midterm elections in 2021 when Morena lost ground, including its coalition's congressional supermajority.

Heir today, gone tomorrow

It is also a matter of personality. Ms Sheinbaum is nowhere near as inflammatory as her boss, who takes aim at critics from hours-long daily press conferences. She is a "very different figure" from the president, says Patricia Mercado, a senator for Citizens' Movement. Even so, some worry that Ms Sheinbaum will merely be Mr López Obrador's proxy. The president says that he will retire to his ranch after stepping down at the end of 2024. But if Morena were to somehow win a supermajority in 2024, he has pledged to use his last month in power, when his successor is president-elect, to pass constitutional reforms that have already been rejected by the Supreme Court. Whether or not he remains on the political scene, his influence on Mexico will be felt for years to come. ■



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Brazil

A power struggle

SÃO PAULO

Lula wants to purge Brazil of Jair Bolsonaro's influence. That will be hard

Luiz Inácio Lula da Silva, Brazil's new left-wing president, has a tricky job ahead of him. The country is more polarised than at any time since its return to democracy in 1985. In January supporters of Jair Bolsonaro, his right-wing populist predecessor, stormed Congress, the presidential palace and the Supreme Court in Brasília, the capital. They did so to try to overturn the election result, in which Lula (as he is known) won by just 1.8 percentage points. Fully 39% of those polled still think that the election was rigged; younger Brazilians are particularly prone to support the former president. The parallels with the United States are uncanny. But Lula wants to ensure that, unlike Mr Bolsonaro's idol Donald Trump, his predecessor cannot make a comeback.

In his first few months in office Lula has tried to overturn Mr Bolsonaro's programme. He prevented ten state-owned enterprises from being privatised. He also repealed policies which pandered to Mr Bolsonaro's base, including expansive new gun decrees. In February he suspended new gun permits and introduced a deadline of May 3rd for gun owners to register their firearms or have them confiscated. On April 30th Lula's allies in Congress announced they would put forward legislation to curb online disinformation, which Mr Bolsonaro is being investigated for spreading. The law would force tech firms to remove fake news or face fines of up to 10% of their revenues in Brazil.

Similarly, on May 3rd Mr Bolsonaro's home was raided by police over allegations that he falsified his covid-19 vaccination certificate. He is being investigated in another two dozen cases. He denies all wrongdoing. Lula has also dismissed 189 federal-government soldiers for failing to prevent the riots in January.

But his desire to purge Brazil of his predecessor's Trumpist legacy faces several problems. For a start, Mr Bolsonaro can still count on a band of ardent supporters. An inquiry into the January riot is due to begin soon in Congress. Two-fifths of Brazilians do not think Mr Bolsonaro played any role in the attack, as Lula suggests.

Second, Mr Bolsonaro's supporters are unlikely to respond well to attempts to change the status quo. Take gun owners. The right-wing president passed at least 32 decrees to allow Brazilians to buy more guns. The number of outstanding permits granted to buy firearms increased from 117,000 to 695,000 during his four-year term. Many gun owners are not going to give them up easily: over 6,000 people failed to register their weapons by the deadline. Marco Aurélio Carvalho, a lawyer who helped formulate Lula's gun policy, admits that registration is just the first step and more could be done, such as encouraging owners to sell their guns.

And Lula's attempts to regulate social media have brought disparate groups together to oppose it. On May 2nd the president's allies were forced to postpone a vote on the bill, after failing to gather congressional support for it. Many worry that the bill curtails free speech. Conservative types are against it, not least as it could incriminate Mr Bolsonaro. Two days after the attack on Congress, Mr Bolsonaro posted and quickly deleted a video claiming the election was fraudulent (he later told police he had uploaded the post by accident).

Tech companies and evangelical Christians also oppose the bill. Google altered its search-engine results so that news articles which opposed the bill would appear at the top of the page, according to a study by the Federal University of Rio de Janeiro. In response, antitrust regulators opened an investigation against the company at the request of a senator who is a Lula ally. Evangelicals fear that it will prevent them from posting passages of the Bible that could be considered homophobic.

Even some supporters of stricter regulation rejected certain points of the draft, such as one which would have given immunity to legislators who spread falsehoods online. Critics also feel that the bill could give the courts too much power. Last year the Supreme Court ordered the removal of thousands of social-media posts, mainly by *bolsonaristas*. It ordered the police to raid the homes of eight businessmen after some joked on WhatsApp that they would support a coup to keep Mr Bolsonaro in power.

The final problem for Lula is that his predecessor managed to reshape aspects of the Brazilian state. Mr Bolsonaro's party, which controls nearly a fifth of Congress, will probably water down any version of the fake-news bill. The public security caucus, made up mostly of pro-gun congressmen, has swelled from 25 legislators across both houses in 2018 to 37 today, out of a total of 594 representatives. Mr Bolsonaro's heirs still wield power. In April one of his sons, Flavio, a senator, proposed a bill that would loosen gun restrictions again.

Jair'll be back. Maybe

Even if a fake-news bill is eventually passed, it will be hard to control what Brazilians post online. In the United States, viral posts spread on Facebook and other platforms, the content of which can be easily analysed. By contrast, in Brazil it circulates on encrypted messaging groups like Telegram which are harder to access, says David Nemer of the University of Virginia.

All this means that ridding Brazil of Mr Bolsonaro's influence will not be easy. With one exception. Under American law, Mr Trump can run for the presidency next year even if he is convicted in one of six inquiries investigating him for alleged wrongdoings. In Brazil Mr Bolsonaro would become ineligible for office for eight years if convicted in one of the 15 criminal probes pending against him. ■



South Africa

Fear of the failed state

JOHANNESBURG

Business leaders have realised that running the country cannot be left to the ANC

When Cyril Ramaphosa became South Africa's president in 2018, business leaders were ecstatic. Here was one of their own: a pragmatic tycoon to fix the incompetent kleptocracy of Jacob Zuma. Yet five years on, bosses of large businesses are exasperated. CEOs from several different industries—such as Neal Froneman of Sibanye-Stillwater, a mining company; Daniel Mminele, the incoming chair of Nedbank; and Ralph Mupita, of MTN, a telecoms firm—have sounded the alarm. Could South Africa become a failed state?

Already in 2023, blackouts by Eskom, the electricity utility, have surpassed those of 2022, hitherto the worst year on record (see chart on next page). Businesses are planning for the total collapse of the grid. "If this crisis continues, we will not be able to guarantee stable supplies of food, medicines and other essential goods," wrote retail bosses in a letter to the president in February. Morale dipped further when the rand hit a record low after America's ambassador earlier this month accused South Africa of covertly sending arms to Russia.

CEOs have all but given up on Mr Ramaphosa fixing the problem himself. So firms are sending staff to government departments, including his office: a very South African solution. Those with means find alternatives to a failing public sector, paying for private health care, schools and security, and installing solar panels to power their homes.

Links between big business and the government began before 1994, when Nelson Mandela and his African National Congress (ANC) came to power. As international firms and capital left South Africa in the 1980s, the domestic groups that dominated South African business got bigger. By the end of the decade three conglomerates controlled companies accounting for 75% of the market value of the Johannesburg Stock Exchange (JSE). But some tycoons saw that white rule was unsustainable. So in 1985, defying the wishes of the apartheid regime, the chair of Anglo-American took a group to meet exiled leaders of the ANC. One delegate, upon meeting Thabo Mbeki, joked to the future president: "Welcome to the capitalist class!"

Those talks led to an unwritten deal. The ANC would drop its pledge to nationalise big companies. Business would embrace affirmative action and enrich a black elite including, most notably, Mr Ramaphosa. In other respects the basic structure of the South African economy changed little. Many of the same big firms still predominate—and feel less competitive pressure than peers in other parts of the world. According to research by the IMF, mark-ups by publicly listed firms increased by 25% from 2000 to 2016. The average rise globally was 6%. Sustained mark-ups, namely prices above the marginal cost of production, imply a lack of competition.

Problems have been thrashed out in private. In 2015, Mr Zuma tanked the rand by replacing a respected finance minister—who had helped block a multi-billion dollar nuclear-power deal with Russia— ▸▸

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with an obscure MP. Captains of industry called a meeting with ANC bigwigs, including Mr Ramaphosa, who by then had amassed a fortune and returned to politics. Mr Zuma changed tack.

Yet today's crises cannot be solved with a quiet word. Bosses typically cite three issues: power, logistics and crime. Last year power cuts may have reduced GDP by 7-8%; 2023 could be even darker. The blackouts caused South Africa to go from being the most reliable among MTN's 19 African networks at the start of 2022 to possibly the worst a year later. The largest supermarket chain says spending on diesel for generators cut profits by 7% in 2022.

Transnet, the state-owned firm that operates freight rail has, like Eskom, been battered by allegations of corruption and mismanagement. Last year miners lost out on 300bn rand ($16bn) worth of exports, roughly a third of what they managed to sell abroad, according to Jan Havenga of Stellenbosch University, because they could not get their goods out of the country. Transnet moved less general freight—excluding minerals and metals—than at any time since the 1940s.

The crook factor

Crime makes everything worse. In 2019 at least 183 infrastructure projects were disrupted by "construction mafia" demanding jobs and bribes. The theft of cables from Eskom, Transnet and passenger railways cost South Africa an estimated 50bn rand in 2022, roughly akin to the economic contribution of the wine industry. Andre de Ruyter, Eskom's former head who courageously tried to root out graft, was nearly fatally poisoned in December. (Do not use a personalised coffee mug, he says, when asked if he has advice for his successor.) Western officials worry that South Africa is becoming to money-laundering what Silicon Valley is to venture capital. In February the Financial Action Task Force, a global watchdog, put the country on its "grey list", meaning that South Africa's banks and authorities will come under greater scrutiny.

Mr Ramaphosa has repeatedly pledged to get a grip. Alas, he has failed. One CEO sketches out a two-by-two diagram, the sort beloved by management consultants. One axis is labelled "morality", the other "competence". Mr Ramaphosa is placed in the moral but incompetent square, whereas Mr Zuma is in the one marked immoral and incompetent. When Janet Yellen, America's treasury secretary, visited South Africa earlier this year, CEOs asked her to talk sense into the president.

"Earlier this year we came to the realisation that we're on the edge as a country," says Martin Kingston, chair of Business for South Africa, a pan-industry body. "We realised the status quo was just not tenable." Drawing on the experience of procuring protective gear and vaccines during the pandemic, business groups formalised what had previously been only ad hoc efforts to assist the government.

For several years firms have sent staff to help run government departments, paying their wages. Corporate lawyers work at the prosecuting authority; bankers toil in the department of industry. Several secondees are involved in Operation Vulindlela ("Make Way"), a joint initiative of the presidency and finance department that is meant to beat bureaucratic inertia.

Last year a new unit, sitting in the presidency, was set up to reform the electricity industry. In March Mr Ramaphosa said that the private sector would pay into the Resource Mobilisation Fund (RMF), a whip-round designed to hire outside consultants. The RMF may well pay for a private team to try to reform logistics, too. "The aim is to create a parallel system of institutions to make things work in the moment," says Morris Mthombeni of Gordon Institute of Business Science, based in Johannesburg. Business groups stress that their efforts will be transparent. And the approach offers a better chance of success than relying on cabinet ministers who are instinctively sceptical of the free market.

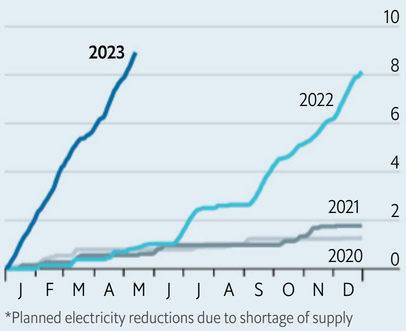
But critics still worry about how business is behaving. Organised business has, at least until recently, had a case of Stockholm syndrome, argues Ann Bernstein of the Centre for Development and Enterprise, a think-tank. "They have covered up for a failing president." It would be better if business leaders explained to the public the true extent of South Africa's crisis.

South Africans might listen. As part of a global poll published earlier this year by Edelman, an American consultancy, South Africans said they trusted business more than government, the media or NGOs. Indeed, the gap of 40 percentage points between trust expressed in business (62%) and in government (20%) was larger than in any of the other 27 countries polled.

Mr de Ruyter argues that business is still too timid when it comes to calling out corruption. After he was poisoned he was "disappointed" by the reaction of other business leaders, many of whom sent private messages but stayed quiet in public. "But that's the culture," he sighs.

Heart of darkness

South Africa, cumulative load-shedding*, TWh



*Planned electricity reductions due to shortage of supply
Sources: Bureau for Economic Research; Eskom

According to Mcebesi Jonas, a former deputy finance minister, "Until you recognise that the ANC is unfixable you can't fix the country's problems." The ruling party, he explains, is "fundamentally statist". The situation is so dire, he contends, that society could "explode at any minute".

Enter the bosses

"This is a 1985 moment," argues Songezo Zibi, a former business-newspaper editor and corporate executive, who in April set up his own political party. Though he concedes that no single firm has the power that the Anglo-American conglomerate did in the 1980s, he says business must show similar courage today. Rather than take part in yet more state-led initiatives, the top 40 or 50 CEOs should gather with unions and NGOs to thrash out a new "social contract". No amount of technocratic assistance will reform the government, he insists. "Until you change the politics, you're not going to solve the problems."

Business is unlikely to embrace such proposals—and not just because they are fuzzy. "Whether you like it or not, the ANC is the government today and will be the largest party tomorrow [ie, after the next election, due in 2024]. It would be foolish not to talk to them," says Mr Kingston. Firms are already wooing Paul Mashatile, who became Mr Ramaphosa's deputy in March and is his most likely successor. "He seems like a man we can do business with," says a CEO. He omits to mention that the same was said of Mr Ramaphosa.

The insourcing of help to Mr Ramaphosa's office does, however, show that large firms no longer feel insulated from South Africa's problems. Potential competitors are relatively scarce: the World Bank suggests that South Africa has one-third of the small businesses it should have, given its GDP per person. Much of the revenue earned by the 40 largest JSE-listed firms comes from outside South Africa.

But there are limits to what even the biggest firms can do to protect themselves. Mike Brown, Nedbank's CEO, says that large firms will perhaps be able to ride out problems in the short run. "But in the long term our fates are inextricably linked to the success or failure of the South African economy," he laments.

Mr de Ruyter puts it more starkly. Over unpoisoned coffee, he worries about what will happen if the country continues on its downward trajectory. "You can put solar on your roof, live in a gated estate, have private security, own a holiday home. But if 90% of the population are suffering, how is that sustainable?" ■

Credit-rating agencies in Africa

Are they unfair?

KAMPALA

African governments say that debt pessimism is often unwarranted

SINCE THE spring of 2022, no country in sub-Saharan Africa has issued a bond on international markets. The yields on African debt have climbed so high that most governments can no longer afford to borrow. The usual explanation is that investors are fleeing risky assets at a time of global uncertainty. But is African debt as perilous as foreign lenders assume?

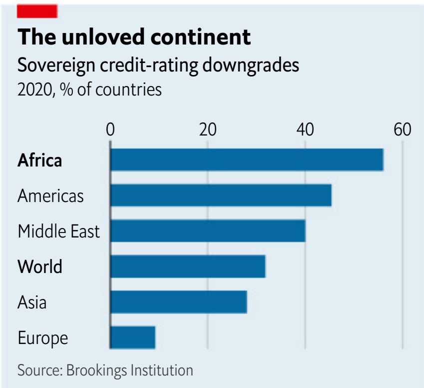
African governments say no. "The perception of risk continues to be higher than the actual risk," argued Senegal's President Macky Sall, speaking as chair of the African Union (AU), in a speech to the UN last year. He pointed an accusing finger at the credit-rating agencies. So did Ghana's finance minister, Ken Ofori-Atta, in the early months of the covid-19 pandemic, as funds dried up and downgrades loomed. "Are the rating agencies beginning to tip our world into the first circle of Dante's Inferno?" he asked. In that poem the monstrous Minos wraps his tail around his body as he sorts sinners into nine tiers of damnation.

Credit-rating agencies prefer to declaim in spreadsheets. They combine economic data with their own subjective judgment to assess whether a borrower is likely to repay on time and in full. Countries with lower ratings face higher interest rates on international markets. A sovereign downgrade also raises the cost of borrowing for firms and deters foreign direct investment. Only two African countries, Botswana and Mauritius, are now rated better than junk.

Misheck Mutize, an economist studying the issue for the AU, casts doubt on the rating agencies. When they look at Africa, they ignore good news and downgrade at the first sign of trouble, he reckons. They take a "blanket approach" to risk that can ignore the differences between African countries. Their jeremiads often become a self-fulfilling prophecy as investors flee.

Rating agencies respond that they apply the same methods everywhere. African governments have low ratings because they collect little tax, borrow in foreign currencies and face other genuine obstacles. A credit rating assesses risk; it does not indict policy, says Matt Robinson, who manages the team that rates African sovereigns at Moody's Investors Service. Without trusted information, investors would put even less capital into African markets.

The debate hinges on how to weigh factors that are not easily measured, like the strength of institutions, or political will. Rating agencies say that expert discretion is where they add value. But their African critics worry that too much space is given to gut feelings. Studies find that agencies tend to look more favourably on their home country and on places which are culturally similar. The big three rating agencies that dominate the global market are all headquartered in America. Moody's and S&P Global each has one African office, in Johannesburg; Fitch has none at all.



A recent report by the UN Development Programme argues that Africa would save money if rating agencies were more "objective". It compares the ratings assigned by the big three with country scores from Trading Economics, a data platform which uses a different economic model to assess risk and leaves little room for discretion. The rating agencies, it turns out, are sometimes (but not always) glummer. If ratings matched the Trading Economics scores, African governments could borrow more often and more cheaply: the cumulative value of these gains could be $75bn, the report estimates.

That is not clinching evidence of built-in bias, because human judgment may detect risks that pure number-crunching misses. Markets seem to think so. Some studies find that investors demand an interest premium of one or two percentage points on African debt, above what would be expected from economic data and credit ratings alone. Ghana's bonds began to sell off even before the rating agencies issued gloomier judgments, notes Stuart Culverhouse of Tellimer, a British research firm specialising in emerging markets. When Moody's issued a downgrade last year, Ghana's government complained of an "institutionalised bias against African economies". Yet it has now suspended repayments on much of its external debt.

The argument about credit ratings is one sign of Africa's renewed assertiveness. From the distribution of covid-19 vaccines to the handling of economic crises, Africans complain they are treated like second-class citizens in the world order. Their case against the rating agencies is unproven. But the Africans may have a point. ■

Ruling Iran

The succession

Theocracy may not survive the current upheaval in the country

WHEN AYATOLLAH RUHOLLAH KHOMEINI, the charismatic leader of Iran's Islamic revolution, died in 1989, hundreds of thousands of mourners packed the streets, fearful of what might happen next. Nowadays the mood is very different. For more than six months Iranians have been demonstrating en masse, chanting death to Ayatollah Ali Khamenei, the founder's ailing successor as supreme leader. Yet no one knows who might fill his shoes when he goes—or whether the Middle East's last theocracy will actually survive.

Despite several cancer scares, the 84-year-old may hang on for years yet. But doubts about his health—and the strength of his system, the *Velayat-e Faqih*, or rule of the cleric—are growing. Even religious-minded Iranians have begun to lose faith in theocracy.

The regime is patently unpopular. Elections have long been a charade. Non-alignment in foreign policy looks increasingly phoney as the regime snuggles up to China and Russia. The succession is bound to shake the status quo, says Pejman Abdolmohammadi of the University of Trento in Italy. "It could speed up a full authoritarian takeover or spark a democratic transition."

On paper the succession should be smooth. As things stand, the supreme leader has the final say on all matters of state, making him far superior to the president, who is elected under undemocratic conditions every four years. The supreme leader, by contrast, is picked by an assembly of 88 clerics. If this turbaned elite is un- ▸▸



Fake love for the old man

sure whom to choose, a triumvirate composed of the president, the chief justice and a senior jurist decides and a referendum confirms their choice. In 1989 the triumvirate, including a son of Mr Khomeini, wangled Mr Khamenei, a middle-ranking cleric who was already the president, into the job behind the assembly's back. A constitutional referendum duly followed.

Three decades later, Mr Khamenei has shrunk from naming a successor. Meanwhile the regime has been rocked by demonstrations and dissent after the death last September of a young woman in the custody of the so-called morality police.

The two prime contenders have even weaker religious pedigrees than Mr Khamenei's. Ebrahim Raisi, formerly the chief justice and now an arch-reactionary president, spent a relatively short time studying in seminaries. "He's only as qualified as a mosque imam," says Mustafa Fahas, a Shia Muslim academic in Lebanon who monitors events in Iran. Mr Raisi's father-in-law is an ultra-conservative cleric who, among other things, wants to ban music. This alienates him from most Iranians.

The other front-runner is Mr Khamenei's second son, Mojtaba. He runs the supreme leader's office and is close to Hossein Taib, until recently the powerful intelligence chief of the Islamic Revolutionary Guard Corps (IRGC), the regime's praetorian body. Mr Khamenei junior has lately been hailed on state TV as an ayatollah, the clergy's highest rank, but has never held an official post and is rarely seen in public. Many regime stalwarts dislike the prospect of a dynastic succession: their revolution was founded on the overthrow of a shah.

The big new factor, compared with the situation in 1989, is the rise of the IRGC. It now has the whip-hand over the clerics. For three decades Mr Khamenei has built up its power as a defence against his rivals among the clergy—and against the risk of opposition in the street. The IRGC's membership in parliament has risen from 6% in 1980 (a year after the revolution) to 26% today, according to Chatham House, a think-tank in London, while clerical representation has dropped from 52% to 11%. The clergy used to post clerics to IRGC units; now the IRGC trains its own clerics and posts them to the seminaries, says Ali Alfoneh, an expert in America who wrote a book about Iran's leadership succession.

As the IRGC has gained strength, many Iran-watchers think its commanders could keep the supreme leader in place but reduce him to a figurehead. It might prefer Mr Raisi as "a useful idiot who fits the bill", says Saied Golkar, another Iran expert in America. The IRGC could conceivably take charge and junk clerical rule altogether, replacing it with an equally authoritarian alternative. The IRGC may be more pragmatic than the ruling clergy and try harder not to clash with the already disgruntled middle class. In foreign policy, however, it could be just as forceful, dropping Mr Khamenei's vaunted *fatwa* against nuclear weapons and openly racing to build a nuclear bomb. While continuing to oppose America's presence in the Gulf, it may nonetheless be more flexible in negotiating with "the Great Satan".

Some argue that the IRGC could impose a new social contract whereby Iranians would have more freedom to dress, drink and dance as they pleased. Iran might have a female education minister, the first in over 40 years. (An Islamist firing squad killed the last one, in 1980.) Political freedom, however, would shrink still more.

That process may have begun. The morality police often leave unveiled women alone. But repression against dissent and crime is as harsh as ever. Executions rose last year by more than 80%, to 576. If an authoritarian IRGC regime were to bring back stability while relaxing personal mores, many Iranians might accept it.

But true reformists would surely bid for a secular civilian system, rather than rule by either the IRGC or the clergy. Earlier this year, a former president, Muhammad Khatami, called for "a fundamental transformation". A popular former presidential candidate, Mir Hossein Mousavi, broke his silence after 12 years of house arrest to call for a referendum on whether to keep Iran as an Islamic republic.

Whatever the shape of the transition, it could well be messy. Only one thing is certain, says Mr Fahas, who is close to clerics within the regime. Mr Khamenei will be "the last real *faqih*". In other words, rule by clerics as envisaged by the 1979 revolution's founding father will be over. ■

A wishful wedding

Can Jordan and Saudi Arabia fall in love?

AMMAN

Dynastic alliances don't always do the trick

When Britain had an empire, Jordan's King Hussein took British and American wives, among others. Seeking to keep a constituency closer to home happy, his son Abdullah, the present king, married a Palestinian. Now Jordan's crown prince, another Hussein, is to marry a Saudi architect.

A century ago the Hashemites, who have always occupied Jordan's throne, were the Middle East's leading dynasty but later became poor relations to their oil-richer rivals in the Gulf. Some fear that Saudi Arabia under its bearish crown prince, Muhammad bin Salman, better known as MBS, wants to turn Jordan into a kind of fief. Two years ago Jordan's security courts accused unnamed foreign powers (guess who?) of trying to replace Abdullah with his half-brother, Hamzah, a charge vehemently denied.



Love, not geopolitics

Might the wedding curb MBS's ambitions, since the bride is related to the Sudairis, an influential clan that has often married into the House of Saud? And might the new alliance encourage the Saudis to pay off Jordan's grinding debts? The Jordanian royal family, including the crown prince's mother, Queen Rania, has recently been careful not to display its wealth too showily. The wedding may be relatively modest.

Gulf-watchers will note whether MBS attends. He has scant regard for many of his relatives, having imprisoned a bunch of them. He has a habit of embracing with one arm and casting adrift with the other. Earlier this month he hugged President Bashar al-Assad of Syria on his first visit to Saudi Arabia in over 12 years. Some say he then denied him a private audience and refused to promise any cash to rebuild the devastated country.

One person who cherished Jordan's link to Saudi Arabia is in jail. For years Bassem Awadallah ran King Abdullah's court, before moving to the Saudi capital at Riyadh to advise MBS. But after he came back to Jordan he fell out with its regime and was sentenced to 15 years in prison there, allegedly for plotting with Hamzah. King Abdullah may need more than a marriage to make the Saudis more generous. "We're becoming irrelevant," laments a Jordanian former official.



Australia and China

Lucky for some

BEIJING AND SYDNEY

Australia has faced down China's trade bans, and emerged stronger

When China launched a campaign of economic coercion against Australia in 2020, Communist Party bosses thought they had crushing leverage. The economies of the two countries—resource-rich Australia and commodities-hungry China—were complementary and closely connected. By massively curbing shipments of everything from timber to coal, lobsters, barley and wine, on pretexts including exaggerated concerns about trade practices and pest infestations, China imposed a A$24bn ($16bn) hit on Australia, representing 5.5% of its total annual exports. Yet it did not succumb. And like a surfer surviving a shark attack with no more than a lightly gnawed board, Australia is now emerging from three years of Chinese bullying in remarkably good shape.

Its exports briefly suffered under the strictures, then surged—culminating last year in Australia's biggest-ever trade surplus, equivalent to more than 7% of GDP. And the trade blocks, imposed after Australia's then-conservative government dared call for an inquiry into the origins of Covid-19, are coming off. On May 18th, after a meeting between the two countries' trade ministers in Beijing, China lifted a de facto ban on Australian timber. ("Serious study" by quarantine officials had allayed its concerns about bug infestation, explained Xiao Qian, China's ambassador in Canberra.) Since January, Chinese importers have been quietly buying Australian coal: in the first quarter of 2023 Australia sent them A$1.2bn-worth of the stuff. Australia's centre-left Labor government says cotton and copper exports are also resuming. China is reviewing tariffs on barley, Australia having suspended its case against them at the World Trade Organisation (WTO).

After years of unchecked Chinese bullying, on Asia's seas, in its multilateral forums and beyond, Australia's escape is being widely understood as a significant win.

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50 Banyan: Pacific islands and America

And so it is. Yet it involved, as well as strong nerves, a large dose of luck.

Chinese leaders were only half-right. As their boycott began, Australia's economy was indeed reliant on China. Exports of goods and services to China accounted for 11% of outbound trade in 2005. By 2020, the share stood at 37%. Mitigating its reliance, Australia's bet on China was chiefly a wager on international trade. Australia has relatively few multinationals that manufacture and sell inside China. But even without vast China-based subsidiaries, Australia was vulnerable. *The Economist*'s in-house index of China exposure adds goods exports to China, services exports to China and Hong Kong, and the revenue of foreign multinationals' affiliates operating in China and Hong Kong. Australia's exposure, at 8.2% of GDP in 2020, was double that of America, and close to that of Germany.

Luckily for Australia, however, the two economies were such a good fit that China's firms felt as much pain from the curbs as Australia's, if not more. And some commodities, such as Australian iron ore, were so hard to replace China chose not to target them. Also luckily, many of Australia's bruised exporters found other markets.

After China slapped a tariff of up to 80% on Australian barley, its producers sold it to South-East Asian countries. They also planted other crops. And Chinese beermakers had to buy other countries' barley, which was not as good. When China blocked shipments of Australian coal, similarly, it had to buy more from Russia and ▸▸

Indonesia. That left India and Japan short, so Australia sold to them. Meanwhile, rising world prices made Australian miners lots of money. Australian pain, though not insignificant, was concentrated: lobster fishermen struggled; wine exports to China's middle classes plunged.

Australia's efforts to manage the crisis politically were assisted by Chinese overreach. China's propaganda machine fiercely denounced Australia, and almost all official contacts were frozen. In November 2020 China's embassy in Australia made public a list of 14 grievances with the country's then conservative government. Ranging far beyond economic questions, China moaned that members of Australia's parliament were allowed to criticise the Communist Party and that the country's news outlets published "unfriendly or antagonistic" reporting on China. The then-prime minister, Scott Morrison, suggested that these complaints were essentially against "Australia just being Australia".

Encouraged by such missteps, Australia held its nerve. The election of a new government, led by Anthony Albanese, then gave China an excuse to climb down.

Mr Albanese's government has been careful not to crow. Dispelling talk of a big win for the West, it claims to be steadfastly respectful and pragmatic in its dealing with China. The idea, ministers say, is to "co-operate where we can, disagree where we must"—meaning no gratuitous poking of the dragon. "Disagree behind closed doors, but don't amplify your differences," warns another Australian official. "China responds well to this."

Alongside such caution, Australia also understood its strengths. China relented because it "saw that we wouldn't capitulate", the same official argues. Australia resisted demands to change laws, overturn investment bans and muffle critics. Rather, under its previous and current government, it tied its security policy tighter to America through AUKUS, a trilateral submarine-building pact that also includes Britain, and a policy of deterrence. It is also doing more diplomatically to counter China's influence in the Pacific. The trade bans have in this sense backfired.

Australia set another useful example at the WTO. China agreed to review its barley tariffs just as Australia's case against them was concluding. Rather than force the issue to a judgment, Australia suspended its action. "China does not want to be shamed in the international arena," says Matthew Goodman of the Center for Strategic and International Studies in Washington.

Australia was additionally helped by the fact that China wants to join the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), a vast regional trade deal. As a CPTPP member, Australia could block China's accession. It accordingly made clear there was no possibility of accession talks so long as China was trampling economic rules and its pre-existing free-trade agreements with Australia.

Ties that bind

Exposure to China, total exports and Western-owned subsidiaries' revenues, 2020, % of GDP



*Mainland China only †Including Hong Kong ‡Estimate
Sources: IMF; Australian Bureau of Statistics; OECD; Bloomberg; *The Economist*

How will Australia guard against the risk of a repeat? Decoupling is not on the agenda—China still accounts for almost a third of its total goods and services exports. But three years of Chinese bullying have left a mark. Australia is trying to reduce its reliance on China by signing free-trade agreements with India and Britain. Another, with the EU, is in the works.

China's aggression has concentrated minds among Australia's partners and allies, too. At meetings in Japan on May 20th, leaders of the Group of Seven (G7) countries voiced concern at the "disturbing rise in incidents of economic coercion" and promised, for the first time, to collaborate against attempts to "weaponise economic dependencies". There is more talk of solidarity and co-ordination, so countries do not profit by selling more to a bully when a friend or neighbour is being targeted. America's ambassador to Japan, Rahm Emanuel, talks of his country offering "support and countervailing opportunities to partners in their times of need".

China is the largest trade partner of a long and growing list of countries. Very few have the wealth and natural resources that protected Australia, the "lucky" country. Even so, many are studying the lessons of Australia's escape from China's grip. ■

An interview with Sheikh Hasina

Asia's iron lady

TYSONS CORNER, VIRGINIA

The long-serving prime minister is keeping outsiders happier than Bangladeshis

BANGLADESH'S PRIME MINISTER, Sheikh Hasina, is the world's longest-serving female head of government, and one of the most significant of either sex. During two decades in office she has presided over momentous poverty alleviation in her country of 170m, fuelled by average annual GDP growth of 7% for much of that time. The 75-year-old has led her party, the Awami League, to victory in three consecutive polls, and four in all—one more than Indira Gandhi or Margaret Thatcher managed. With an election due early next year, which she is expected to win, *The Economist* asked her, in an interview in her northern Virginia hotel suite, what ambitions she had left.

"I want to make this country a hunger-free, poverty-free developed country," she says—then abruptly switches tack. "Can you imagine that they killed my father?" she asks, referring to the grim history that launched and still shadows her career.

Her father, Bangladesh's first president, Sheikh Mujibur Rahman, was assassinated in an army coup in 1975, four years after the country's bloody split from Pakistan. Seventeen of his close relatives—almost all except Sheikh Hasina, in Europe at the time—were murdered too. "They killed my brother, my mother, another brother—only ten years old! My two sisters-in-law, my only uncle, a disabled person," says the prime minister, her eyes wet with tears.

Her advisers had primed this interviewer to ask about that long-ago tragedy. He had not, but Sheikh Hasina raises it anyway, as she often does. This illustrates the great sense of loss and destiny she exudes—and on which she has built an imposing personality cult. A huge portrait of Sheikh Mujib, schlepped around the world by her 100-man retinue, leans by her chair. She nods towards it, as if bringing the murdered man into the conversation.

The question confronting Bangladeshis is whether their leader's feelings of grievance and dynastic entitlement are becoming a threat to her legacy and their future. The interview provides little reassurance.

No politician likes criticism. But the prime minister bristles at the slightest suggestion that her record is imperfect; and in response offers rapid-fire criticisms of almost every Bangladeshi government except her own. Asked about corruption, she blames it on the military government that ▸▸

replaced her father, accuses the World Bank of inventing a recent scandal allegedly involving members of her government, then claims the problem does not exist. "Maybe in the down level, but not that much nowadays. They dare to do it and I will take action!"

Bangladesh has long been rated South Asia's most corrupt country after Afghanistan. Thanks to the Taliban's steps, it may now be the most corrupt. Some of its graft looks symptomatic of the de facto one-party state that Sheikh Hasina, fulfilling one of her father's ambitions, has made.

Before she was re-elected in 2008, power switched repeatedly between the League and the Bangladesh Nationalist Party (BNP), run by another charismatic dynast, Khaleda Zia. Amid the political tumult, the country's institutions, including the media, police and courts, had a degree of independence. Now Mrs Zia is under on-off house arrest, her party's activists are hounded, the media is cowed and the police and courts are suborned to Sheikh Hasina's party. Not coincidentally, they are two of the country's most corrupt bodies.

The coming election will not offer the BNP a way back. Although Sheikh Hasina claims to be committed to a free vote, she says that only a "real political party" should be permitted to compete—and that her opponents do not fit the criteria.

She accuses the BNP, formed under army rule half a century ago, of being "constituted by a military ruler illegally". She alleges that the country's biggest Islamist party, a former ally of Pakistan, is "almost all war criminals". "Our point is that there is no such party [apart from the League] who can really contest the election."

In some ways, Bangladesh has probably benefited from her iron grip. It has not obviously boosted the growth rate, which hit a high gear before her extended spell in office and is largely a product of pre-existing factors: such as the country's garment industry and services provided by its elite NGOs. Yet she has wrought policies, including infrastructure investment, that have helped maintain the boom, which a weaker government might not have sustained.

But authoritarianism has diminishing returns. Overly reliant on garments, Bangladesh needs to develop new exports, a reality its government is hardly grappling with. (Sheikh Hasina says it is looking to develop handicrafts and food processing—an insufficient solution.) Bangladeshis, a disputatious people, are bridling at her strictures. Several hundred were protesting rowdily outside the hotel. Rights groups say the election could be violent.

America might once have warned Sheikh Hasina to let Bangladeshi democracy breathe. Now it is mainly concerned that she should not accommodate China, which her government is courting for investment. India, where she has close personal ties, takes a similar view. Sheikh Hasina appears adept at mollifying all three, a success she attributes to pragmatism. "The relations between America and China are their own matter. Why should I poke my nose there?" Yet she makes a dig at America, because it was once close to Mrs Zia. "They say they are the democratic country-...But in our country they don't exercise that. Why don't they support me?"

Actually they do, but perhaps shouldn't. Sheikh Hasina's long career has been a story of courage and the ruthless use of power, with some policy successes that she can lay claim to, and epic national growth that she cannot, but does. It is hard to see how the story will end well. She is growing increasingly authoritarian and resented and, as she confirms, has no plans to retire.

Her government's latest plan is entitled Vision 2041. She will not see it out, she concedes. But as she broaches a third decade in power, succession planning is not on the agenda. "Because if I'm not there...I don't know who will come to power." ■



Sheikh Hasina goes on and on

Japanese funerals

Up and away

TOCHIGI

An ageing society is finding creative ways to dispose of its dead

THE SAKASHITAS gather in front of a gigantic red balloon. Inside it are the ashes of their late father, Haruhiko, and his late dog, Fuu-chan. On a count of three, Saiko, the dead man's daughter, snips the string tethering the helium-filled orb. It shoots into the sky, with a dozen smaller balloons in pursuit. The family members watch—some waving—until the balloons disappear into the clouds. "Our father was a calm man, always travelling the world," says his oldest son, Kohei. "Whenever we look at the sky, we will think of him."

In Japan, people are traditionally cremated after death and their ashes buried. But in a crowded, ageing and largely secular society, this is becoming trickier and less desirable. Japan's death rate is soaring—in 2022 the country logged 1.5m deaths, the highest figure since the second world war. Grave sites are running out of space. There are fewer grieving relatives around to perform funeral rites, or to tend graves. As a result, the rituals surrounding death in Japan are changing.

The "balloon funeral" chosen by the Sakashitas was invented in 2011 by a Japanese firm called Balloon Kobo, which has performed 300 such funerals to date. Scattering ashes in the sea or mountains used to be frowned upon, but it has become widely accepted in recent years. "Tree burials", whereby buried ashes are marked by a sapling instead of a gravestone, are even more popular. A survey showed that half of those who purchased graves in 2022 chose tree burial sites. People are increasingly attracted to the idea of "becoming one with nature", says Inoue Haruyo of Ending Centre, a non-profit that helps put people in touch with cemeteries. The new methods also tend to be much cheaper than purchasing tombstones, which typically cost at least a million yen ($7,200). "Most people don't want to bother their children after death," says Onodera Yoshihiro, the president of Balloon Kobo.

Traditionally, Japanese graves are inherited by a family member, usually the eldest son, who is then charged with paying fees to the temples that manage them. Since the 1990s, as Japan's birth rate has declined, there has been a growing shortage of such custodians. For many city-dwellers, visiting graves in their or their ancestors' rural home towns (as is expected during certain holidays, such as *obon*) is also increasingly troublesome. Many ashes ▸▸

have been dug up and transferred as a result. In 2020 nearly 120,000 graves across Japan were thus "closed".

Japanese families traditionally hold a days-long wake for their dead relative and then the funeral service. But even where the old ways are hewn to, funerals are shrinking for lack of mourners or funds. In Japan, where life expectancy is over 80, many outlive their friends and close relatives. Partly to save money, it has become more normal to dispense with formalities such as lavish funeral altars and decorations. "The scale of one death has become smaller and smaller," says Ms Inoue. Funerals and mourning are increasingly being combined into day-long affairs. Simply cremating bodies without any gathering or funeral rite is also becoming more common. While funerals are traditionally Buddhist (and marriages Shinto), non-religious funerals are also on the rise.

These disruptions are not only easing the burden on bereaved families. They are also changing the way Japanese think and talk about their impending demise. Selecting from a growing number of funeral options necessitates conversations about death, once a taboo. "Shukatsu", or "death planning", a term that combines the words for "end" and "activity", has entered the lexicon. Beyond funeral preparation it often entails taking greater care over bequests and posthumous instructions than was once the norm.

"When he was alive, my husband said he would like to fly in the sky," says Sakashita Akiko, Haruhiko's wife, explaining why the family opted for a balloon funeral. Their son Kohei echoes the sentiment. "We knew what our father wanted, and we wanted to respect that." ■

Banyan Islands in the storm

America is lavishing attention on Pacific island states

There are two ways of looking at the security pact that Antony Blinken, America's secretary of state, signed with the prime minister of Papua New Guinea (PNG), James Marape, on May 22nd. The obvious one is as further evidence of the great-power contest between America and China that is playing out in ever-expanding ripples across the Pacific Ocean. In that contest, America had, by its own reckoning, previously neglected the role of Pacific island states, of which PNG, a diverse land with 10m people, is by far the biggest.

America is now making amends. It opened an embassy in the Solomon Islands and Tonga, and has plans to do so in Kiribati and Vanuatu. While in Port Moresby, PNG's capital, Mr Blinken also signed renewed "compacts of free association" with Micronesia and Palau, island states between PNG and America's dependency of Guam. A renewed compact with the Marshall Islands will follow. These states hand over their defence exclusively to America in return for aid guarantees and other benefits.

Yet the pact with PNG, the most striking evidence of renewed American engagement with the region, also represents a significant new opportunity for its island states. President Joe Biden had been due to travel to PNG to sign the pact. America's fraught internal debt-ceiling negotiations nixed that. Even so, Mr Blinken is surely now the most influential American official to have visited PNG since General Douglas MacArthur.

The strategic thinking is this: if America is to deter China from invading Taiwan (or if it is to defend Taiwan if China invades), Guam will be a crucial American military base. It is outside the range of many Chinese missiles. But Guam's resilience rests on safe seas and skies around it. Hence the importance of these other island states. In addition, were China to control the waters around PNG, Australia, an important American ally, could be bottled up. Some of the bitterest fighting of the second world war took place in PNG, where MacArthur was supreme allied commander, precisely because of its strategic importance.

America's view of a titanic, superpower contest is officially deplored by China—but shared by it. Its envoy to the Pacific, Qian Bo, accuses America of possessing a "cold-war mentality", of trying to sabotage China's relationships, and of being blinded by "ideological prejudice". Perhaps. But China has a cold-war mentality, too. It vies unbendingly with Taiwan for influence with the Pacific's smaller states. In 2019 its financial inducements, some of them underhand, persuaded the Solomon Islands and Kiribati to switch diplomatic allegiance. A security pact that China signed with the Solomons last year led a panicked America to realise how much ground in the region it had lost.

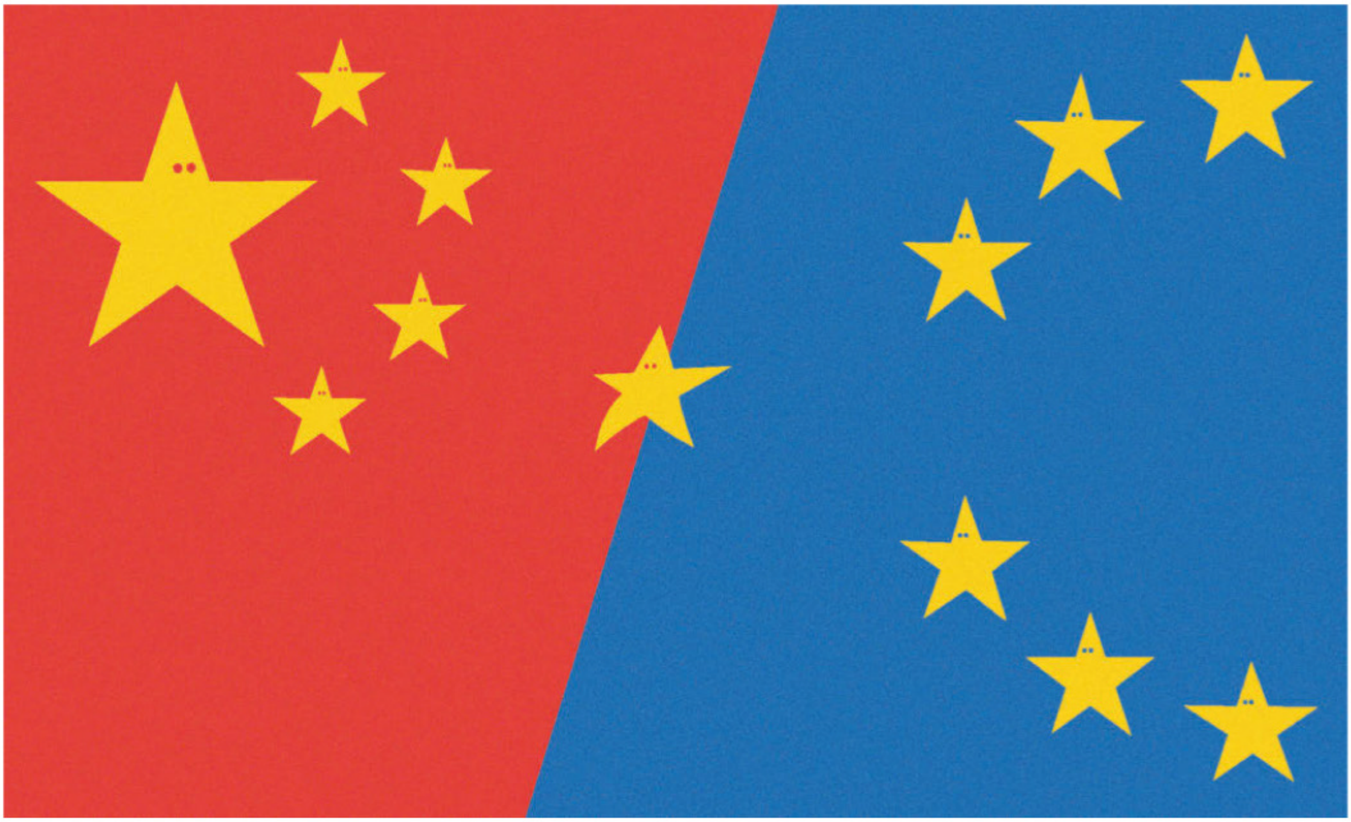
Untrammelled competition between the two big powers is met by some islanders with foreboding (Port Moresby saw protests against the new pact). The Pacific islands' history as hapless victims is seared into the collective memory; they were objects of colonial exploitation, then bloody battlefields and finally post-war sites for nuclear tests. But for those minded to see the upside for the Pacific states, as well as the risks, in their renewed geopolitical relevance, there are many opportunities to point to.



The island states are no longer victims. It has been years, says John Blaxland of the Australian National University in Canberra, since they enjoyed such favours from outside powers, in terms of high-level visits, offers of investment and other commitments (the $45m Mr Blinken promised impoverished PNG will help it fight transnational crime and climate change).

Great-power competition can mean growing options. The PNG deal underscores a level of comfort among Pacific states with outsiders that have English, Christianity and history in common with them. Last year they flatly rejected China's attempts to create a new geopolitical bloc. Yet they are happy to take Chinese investment. Mr Marape says PNG will not stop working with China; indeed it is negotiating a free-trade deal with it. PNG, says Mihai Sora of the Lowy Institute, a Sydney think-tank, is "very deft at compartmentalising relationships"—security and development with America, trade and investment with China.

Other Pacific states are, too. Seen from a local perspective, the island countries are increasingly binding America and China into a web of Pacific obligations. It could make the region stronger—and, by restraining the adventurism of both powers, perhaps even safer.



Relations with Hungary

A toe-hold in Europe

BEIJING AND BUDAPEST

European views of China have hardened in recent years. To China's leaders, that makes Hungary all the more special

To ears accustomed to a swelling chorus of China-scepticism in the European Union, the language of Hungarian diplomats is striking. Not for them the common talk of European officials about the need to "de-risk" relations with China and to treat it as a "systemic rival". Co-operation between Hungary and China presents "opportunities rather than risks", said Hungary's foreign minister, Peter Szijjarto, in Beijing on May 15th. Wang Yi, China's foreign-affairs overlord, told him that relations between the countries had entered their "best period in history".

As China surveys the grim landscape of its foreign policy in Europe, battered by differences over matters ranging from the war in Ukraine to human rights abuses in Xinjiang and China's muscle-flexing around Taiwan, Hungary's dogged friendliness towards China—and Russia—stands out. Hungary echoes China's view that Western support for Ukraine is merely fuelling the conflict at Europe's expense. Speaking to Bloomberg on May 23rd, Hungary's prime minister, Viktor Orban, defended his blocking of a $540m package of EU financial aid to Ukraine. "There's no chance to win this war," he said.

Other countries in eastern Europe, such as Poland, had shared Hungary's fondness for close ties with China. But their enthusiasm has been dented by China's support for Russia during the Ukrainian war, and a sense that the business rewards of embracing China politically have not been as great as expected.

China sees good uses in friendship with Europe. The EU is a vital trading partner. Moreover the bloc could, if it wished, soften the impact of America's rivalry with China by taking a less security-focused approach. Officials in Beijing are alarmed by a recent trend—seen not least in critical joint statements at a G7 meeting in Tokyo on May 21st—towards greater transatlantic co-operation on China, notwithstanding differences among EU members over how far this should go. During a trip to China last month France's president, Emmanuel Macron, warned that European countries should not become "just America's followers" regarding Taiwan.

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But Hungary is special. The worldviews of Mr Orban and of China's leader, Xi Jinping, have much in common. They are both authoritarians (albeit to different degrees), who bridle at American power but believe the West is in decline. They are both fond of Russia. Mr Orban's friends in the business world stand to benefit from deals with authoritarian regimes.

Hungary is well-placed to serve China's foreign-policy interests. As a member of the EU it has a veto over foreign and security policy. It has used it to dilute or scupper EU statements critical of China. It is also a member of NATO, an alliance that China views with growing misgivings. Hungary has shown occasional willingness to thumb its nose there, too, for instance in its recent support for Turkey in blocking Sweden's accession.

So, as China sees it, a country of fewer than 10m people and one of the poorest in the EU has an outsize role to play. This was evident in February when Mr Wang went ▸▸

on his first overseas tour since taking over as China's foreign-affairs chief (state media confirmed his promotion in January; it means he outranks Qin Gang, the foreign minister). He visited France, Italy and then Germany for the Munich Security Conference of global foreign-policy elites. Before heading to Moscow, he stopped in Hungary where he praised the country's "China-friendly policy", according to Hungarian media. Mr Szijjarto thanked him for China's "absolutely indispensable" support during the covid-19 pandemic, including the supply of Chinese-made vaccines (which Hungary used in defiance of an EU consensus that covid vaccines deployed in the bloc should first gain EU approval).

In the past couple of years, it might have been expected that events in Hungary would give China pause for thought. Mr Orban, who has ruled the country since 2010 and emerged even stronger after another victory in general elections last year, remains a dependable friend. Polls suggest that Hungarians are among the people most supportive of China within the EU (it helps that the country's mostly pro-government media stifle China-sceptic views). But China-related protests in Budapest in 2021 and recently in Debrecen, the country's second-largest city, have raised questions about how enduring this sentiment will prove. A survey published last year by Pew Research Centre, an American polling outfit, found that 52% of respondents in Hungary held negative views of China, a rise of 15 points since 2019.

South of Budapest's city centre, in the semi-wasteland of an abandoned logistics hub, street signs recall the unrest in the capital two years ago that brought anxieties about China—at least briefly—into public debate. The names on them are pokes at China: "Uyghur Martyrs Street" and "Bishop Hszie Si-kuang Street" (after the late Xie Shiguang, a Catholic, imprisoned for 30 years). In 2021 the mayor of Budapest, Gergely Karacsony, gave the roads these new labels (also a Dalai Lama Street and a Free Hong Kong Street) in protest against a plan to build a campus of Shanghai's Fudan University on the nearby land. Leaked official documents showed that construction would cost $1.8bn, with 80% of the money coming from a Chinese loan.

Opposition position

The Fudan project helped to galvanise the government's critics in Budapest, an opposition stronghold. Three days after the renaming of the streets, thousands joined a rally to denounce the campus plan. Complaints about it ranged from possible stifling of academic debate to the loss of land that had been earmarked for subsidised student housing.

Mr Orban appeared to back down, agreeing to a referendum on the plan. But after his re-election in 2022 the Constitutional Court said such a ballot could not be held because it would involve an international agreement. It is unclear, however, whether the project will proceed. Some analysts in Budapest say China, alarmed by public anger, may have got cold feet.

Fractured after last year's election, the opposition shows little sign of trying to revive public interest. But in the past few months in Debrecen, the government's own supporters have joined a campaign that still simmers against another Chinese project. It involves a plan, announced in August by CATL, a Chinese battery giant, to build a factory just outside the city in the village of Mikepercs at a cost of around $7.7bn. It would make batteries for electric vehicles (EVs), the largest such facility in Europe. Hungary's efforts to develop its EV industry have attracted others, too. Last year BMW, a German firm, began building a $2bn EV and battery factory in Debrecen. This month another Chinese firm, EVE Energy, said it would set up a $1.2bn battery factory to supply BMW's plant.

Some residents worry about the potential impact of the CATL project on the local environment and the area's scarce water resources. They have staged protests and heckled local officials at public hearings. "Opening up to the East is a mistake," says one activist, a 60-year-old retired medic, referring to Mr Orban's policy of promoting business with China and other Asian countries. "Because Hungarian culture is European culture."

In Budapest, however, opposition supporters say they doubt the protests in Debrecen will pose a challenge to Mr Orban or to China's government. The media give little coverage, they say. Any difficulty for his party, Fidesz, will remain largely local. Opposition politicians have attacked another multi-billion-dollar endeavour involving Chinese firms: a new rail link between Budapest and Belgrade in neighbouring Serbia (work on the Hungarian side began in 2021). They say it is overpriced and worry about favouritism in awarding contracts. But China regards the project as a highlight of its belt-and-road building in Europe, for which Mr Orban is a cheerleader.

For all the shifts in European attitudes to China, it is likely that Mr Xi will make few adjustments. Despite Mr Orban's political isolation in Europe, he shows no sign of distancing himself from China. As long as he remains in power, Hungary will be a useful ally. "Studying its position on China could offer lessons for developing good relations between China and other European countries," wrote two Chinese scholars in a paper published this year in a Communist Party journal. One obvious lesson would be that pro-Russian, illiberal governments make solid friends. China's options in Europe are narrowing. ■



Cultural freedom (1)

Festival time

BEIJING

The young are heading to the countryside to let their hair down

LOCKDOWN WAS brutal. But nature is healing. And, it turns out, nature is also part of the healing. As frazzled urbanites emerge from their pandemic hibernaculum into a grim economy, some want to venture to the great outdoors. Small cities and rural areas are obliging by putting on funky new music festivals where the youth can dance and hug and relax once again.

Music festivals were a growing business when covid struck. China's Woodstock moment had happened back in 2000, when the first festival emerged at Midi, a renowned music school in a Beijing suburb. Covering a range of musical tastes from grunge to metal to punk, they grew in number to more than 250 in 2019. So far this year alone, 150 have been announced.

A perfect example took place in mid-April at a remote wetland park in the southwestern province of Sichuan. Some 5,000 revellers gathered outside the city of Meishan for the Chunyou Festival (*chunyou* means "spring outing"). Sparkling lakes dot the landscape between green hills and idyllic forests not far from Sichuan's famous panda sanctuaries. A fifth of those attending came from outside Sichuan, many from Shanghai and Beijing. Many discounted tickets also went to locals, some of whom just came to watch the city folks boogie. With everyone dressed up in boho chic, it felt like a small-scale Coachella, without the weed.

Many urban hipsters have been to such festivals this spring. Others have friends who have just returned from a forest near a

town no one had ever heard of before, where they talked about love and peace and forgot about parental pressure to find a spouse and the "996" grind (9am till 9pm, six days a week).

Seeing their popularity, another struggling tribe has looked to cash in. Local officials also had a tough lockdown, exhausting their budgets chasing down every single case of covid, while watching their income slip away. Now, realising that anxious urban youths will pay good money to loiter near a yoga tent drinking craft beer or mingle at a Tibetan tea area, officials are scrambling to compete for tourists, and looking to build their small-town brand by getting the cool kids posting online. Type #musicfestivals into Xiaohongshu, a social-media app, and you get 2m hits. Chunyou was part of a series of culture- and tourism-awareness programmes for Renshou county, where the wetland park is located. A local newspaper said the number of tourists visiting the park increased 50% from the last festival two years ago.

During the May Day holiday this year, more than 40 music festivals were held across 19 provinces and regions, with many of those in lower-tier cities. Zhuji, a small city two hours from Shanghai, reported that tourists spent 450m yuan ($64m) the weekend it launched its first-ever music festival, including an increase of 365% on hotels and restaurants from the previous weekend. Yantai, a coastal city in Shandong province where this year's Midi festival was held, said 340,000 tourists visited and spent 200m yuan. In the midst of a national economic slowdown, Zhuji and Yantai have both been struggling with debts. "Music festivals have 'brought fire' to us," claimed the Zhuji government on WeChat, a social-media platform, using the Chinese phrase for "going viral".

Chunyou "is a much-needed trip for me after living in Shanghai for a while," says Wency Chen, who works in communications. Several of her friends had flown to Sichuan too. A woman in her 30s, who calls herself Peach, drove two hours with her brother to get there. The whole scene made her feel "happy and liberated", she said.

The music is not bad, either. China's live music scene has evolved a lot, and Chunyou featured a lot of ethnic-minority tunes, played by artists such as Kawa, a reggae group from Yunnan province, and Ts.Bayandalai, an ethnic Mongolian musician. And, in spite of a crackdown on many areas of urban cultural life (see next story), there is still a sense of freedom in the music world. It may not equal the hedonism of some Western gigs, but the festivals are among the few places where rainbow flags can be waved (see Chaguan). The organisers are keen to keep a small-town vibe. "We don't want to become a giant festival," says one. "We just want people to have fun." ■

Cultural freedom (2)

Dog's dinner

BEIJING

Cancel culture in China's cities is nationalist, not woke

DOG JOKES are usually fairly inoffensive. The audience laughed when Li Haoshi, a Beijing-based comedian, wisecracked at a show on May 13th about seeing his two dogs chasing a squirrel. The dogs' zeal, he said, reminded him of military slogans associated with the People's Liberation Army (PLA): "Forge exemplary conduct! Fight to win!" The slogans have become something of a motto for the armed forces (and are also favourites of President Xi Jinping). The incident may have ended Mr Li 's career.

His joke was recorded and posted on Weibo, a social-media platform. Nationalists claimed he was comparing the PLA to dogs. Outrage built. Hashtags about the joke received over a billion views. Within days Beijing's police had started an investigation. They have not said what Mr Li will be charged with, but he has already been banned from performing. The media company he worked for was fined $2m for "wantonly slandering the glorious image of the PLA". Its line-up of shows was cancelled.

Since the incident, several other events have also been called off with little explanation. On May 20th, an open-air concert in Beijing (aptly named "What the Folkstival") was about to begin when police arrived to shut it down. A Japanese band's concert in the southern city of Guangzhou was also cancelled.

The uproar around Mr Li's joke sounds absurd. But it is just the latest example of a toxic loop between China's angry nationalists and its paranoid authorities. Someone unwittingly insults China. Bloggers denounce the mistake. State-run media weigh in to attack the offender. Authorities punish them. Tougher standards are set for what is politically acceptable, squeezing China's already cramped space for self-expression (see Chaguan).



Sold a pup

Several well-known figures have fallen victim to this cycle in recent years. In 2022 Luo Changping, a former investigative reporter, was sentenced to seven months in jail for insulting "heroes and martyrs". He had used a pun on social media to suggest that Chinese soldiers who fought in the Korean war were stupid. The year before, Zhang Zhehan, an actor, was purged from China's film industry after a photo emerged of him standing outside the Yasukuni shrine in Tokyo, where war criminals involved with Japan's invasion of China are commemorated. Mr Zhang said he was just there to see cherry blossoms.

The chilling effect is particularly visible in the entertainment industry. Comedians urge audience members not to record their shows. Performing abroad is not safe either. Wang Yuechi, a comedian who toured North America this year, has been deleted from Chinese social-media platforms because of politically sensitive material in his shows there. Wary venues ask performers to submit their jokes or songs in advance for approval. Industry associations urge actors and musicians to be more patriotic.

In response, performers self-censor and pledge to spread "positive energy". But the government still keeps a close eye. One Shanghai district sends volunteers to theatres. They are trained in "political awareness" and must report anything untoward. One described how she follows the approved version of a play's script on her mobile phone to be sure actors are sticking to their lines. "I can't relax, for fear of missing something," she told state media. The stress is worth it, though, she says. "We're doing our little bit to build Shanghai into the performing-arts capital of Asia."

If people think things are going too far, it is hard for them to say so. Hu Xijin, a well-known nationalist commentator, denounced Mr Li's dog joke, but said he should be given another chance. Mr Hu was scolded for being too soft. One woman in the coastal city of Dalian was bold enough to defend Mr Li on social media. She was detained by police.

Chaguan | Why China's rulers fear gay rights

Social conservatism plus paranoia about foreign infiltration prompts a crackdown



THESE ARE grim and lonely times for China's gay communities, as the country's LGBT support groups are forced to close, one by one. This campaign of repression reveals a lot about President Xi Jinping's China, a paranoid place in which security agencies and ideological commissars enjoy ever-greater clout.

For the same message is delivered, time and again, whenever policemen question gay-rights advocates (and sometimes their family members). It is heard when university chiefs punish students for handing out rainbow flags, or when officials press landlords to evict non-profit groups. The message is that sexual minorities pose a political risk. True, some officials and state-backed scholars also call same-sex love an affront to mainstream Chinese morality, and a threat to young people whose patriotic duty is to marry and have more babies for the Motherland. But activists report that, during interrogations, national security is emphasised much more than morality. Despite the political chill, gay people (as well as bars and dating apps) enjoy far more tolerance than they did a generation ago—but only if they keep it quiet. In today's China, forming a community is a graver offence than being gay.

The latest casualty, the Beijing LGBT Centre, announced its closure on May 15th, citing forces beyond its control. Over 15 years in existence the centre had some high-profile successes, including a court victory in 2014 against a clinic offering electroshock therapy to "convert" gay patients.

Activists talk of their cause being set back a decade or more. Within living memory, China denounced homosexuality as a mental illness imported by foreigners. Criminal penalties for gay sex were abolished only in 1997. During a first posting to Beijing in 2000, Chaguan heard a foreign government minister report, with disbelief, the claim of a Chinese counterpart that there were no gay men in China. Remarkable changes followed. Activists worked to persuade Chinese officials that social stability—the party's great obsession—is strengthened by their activities. Some state media and institutions seemed to agree, offering praise for health-education campaigns or HIV-prevention work done by gay groups.

By 2019, your columnist could meet a gay couple in a Guangzhou cafe as they cheerfully described their plans to register as one another's legal guardians. This baby step towards gay marriage took advantage of a law initially drafted with the elderly in mind. Later it was adapted by creative lawyers to let same-sex couples take medical and some financial decisions for each other, should they grow infirm, undergo surgery or otherwise lose their faculties. That same year, over 180,000 members of the public submitted comments to legislators drafting new regulations on marriage in China's civil code. Many suggested changing "husband and wife" to "spouses" as a first step towards same-sex marriage. A large number of petitioners were mobilised by legal-rights groups such as LGBT Rights Advocacy China. Since then, that petition drive backing same-sex unions has been cited by Chinese diplomats abroad as proof that their country allows free speech and bans discrimination against gay people, most recently at a hearing this February of a UN rights committee. What those smooth-talking envoys did not mention is that, back at home, civil society groups behind that self-same petition have been shut down, including LGBT Rights Advocacy China, which closed in 2021.

Large companies have bowed to political pressures, too. In 2020 a state-owned airline, China Southern, fired a gay flight attendant seen kissing a male pilot on a surveillance video that went viral on social media. The airline told an employment court that the attendant might provoke mid-air disturbances if passengers recognised him from the video. In 2021 WeChat, the omnipresent messaging, e-commerce and social media app, closed dozens of accounts on LGBT topics, especially those run by university students. In recent years, regulators have banned "effeminate men" from television shows, and denounced "boys' love" dramas, a genre involving thinly disguised homo-erotic themes.

Gay groups worked hard to avoid trouble. As a young Malaysian studying in China, Raymond Phang helped to co-found ShanghaiPRIDE, an organiser of gay celebrations and events. He and fellow volunteers grew used to assuring police that events would not feature political statements from foreign diplomats, or touch on such sensitive topics as Taiwan. No public parades or outdoor gatherings were attempted. The group eschewed slogans like "Gay Rights Now", says Mr Phang. "We don't do that in the mainland, it's more about awareness, and 'LGBT is not a sickness'." He calls ShanghaiPRIDE lucky, because none of its volunteers or staff was taken into custody for 24 or 48 hours, as happened to some groups. Even so, the frequency of official visits became exhausting. In 2020, ShanghaiPRIDE announced that it was cancelling all activities.

Other groups were forced to close to secure the release of an organiser in detention, says a veteran campaigner now outside China. As spaces to talk about shared challenges vanish, the young are feeling isolated, he worries. "LGBT student groups or associations have become very underground."

Tyrannies distrust minorities

Alas, in the party's bleak logic, being vulnerable is grounds for suspicion. Early in the Xi era in 2012, Geremie Barmé, an Australian Sinologist, highlighted an essay published in the *People's Daily* by Yuan Peng, an expert on America and later head of a think-tank affiliated with the ministry of state security. Mr Yuan identified five groups that America might use to infiltrate Chinese society: rights lawyers, underground religious activitists, dissidents, internet leaders and—most chillingly—*ruoshi qunti* or "vulnerable groups". A decade on, gay groups, feminists, labour activists and ethnic minorities are all treated as potential tools of subversion by a hostile West. In Mr Xi's China, the marginalised represent a security threat, not an object for compassion. ■



Farewell, peace dividend

The cost of the global arms race

BRUSSELS AND SAN FRANCISCO

What a "war tax" means for the global economy

At the end of the cold war America's president, George H.W. Bush, popularised the idea that cutting defence spending would boost the economy. "We can reap a genuine peace dividend this year and then year after year, in the form of permanently reduced defence budgets," he declared in 1992. The world took note. America went from shelling out 6% of its GDP on defence in 1989 to roughly 3% in ten years (see chart 1 on the next page). Then came the 9/11 attacks and conflicts in Afghanistan and Iraq. Now with Russia's invasion of Ukraine, talk of war between America and China over Taiwan, and tensions concerning Iran's nuclear ambitions, countries are tooling up as never before in this century.

Last year defence spending worldwide increased by nearly 4% in real terms to over $2trn, according to the Stockholm International Peace Research Institute, a think-tank (see chart 2 on the next page). The share prices of defence firms are performing better than the overall stockmarket (see chart 3 on the page after next). Many NATO allies, notably Germany, plan to meet or exceed spending of 2% of GDP on defence—the alliance's target. Other countries are planning to splurge, too. Japan plans to raise defence outlays by two-thirds through to 2027, turning it into the world's third-largest spender.

We estimate that total new defence commitments and forecast spending increases, if implemented, will generate over $200bn in extra defence spending globally each year. It could be a lot more. Imagine that countries which currently spend less than 2% of GDP per year meet that level and that the remainder increase spending by half a percentage point of GDP. Global defence outlays would rise by close to $700bn a year.

Russia's invasion of Ukraine "risks wiping out the peace dividend we have enjoyed for the past three decades", declared Kristalina Georgieva, the head of the IMF, in a speech in April. The West is sending ever more weapons, of ever growing sophistication, in order to help Ukraine launch a counter-offensive against Russia. It has equipped the best part of nine new armoured brigades with modern battle tanks and more besides. Soon it will start training Ukrainian pilots to fly American-made F-16 fighter jets.

The number of NATO countries hitting the 2% target rose from three in 2014 to seven last year. The club now says this should be "a floor, not a ceiling", a notion that is likely to be enshrined at its summit in Lithuania in July. Some countries are moving well beyond. Poland aims to reach 4% this year, and eventually to double the size of its army. France speaks of shifting to a "war economy".

An arms race is intensifying on the other side of the globe, too. Taiwan is extending military service from four months to a year. Under the AUKUS deal, America and Britain will help supply Australia with nuclear-powered submarines; they will also aim to develop other weapons, including hypersonic missiles. In the past decade India's defence budget has grown by about 50% in real terms, as has Pakistan's. In the Middle East, Gulf states are again shopping heavily in the arms bazaar.

China's defence budget has grown by about 75% in real terms in the past ten years. It wants to "basically complete modernisation" of its forces by 2035, and become a "world class" military power by 2049. America thinks China wants the capability to invade Taiwan as early as 2027.

Some in America question whether its approach is adequate in a world riven by rivalry. Despite some recent increases, ▸▸

America's defence budget has shrunk by about 5% since 2012. Squeezes on spending emerged in the aftermath of the financial crisis of 2007-09. Yet even before the acute tension of current times, Congress gave authority to a commission to consider American defence spending. In 2018 the body recommended raising it by 3% to 5% in real terms every year for at least five years. Overall America's advantage over its rivals has eroded in the past century, reckons Andrew Krepinevich, an American strategist. During the first, second and cold wars America's adversaries had much smaller economies than America did. No longer. Today China's GDP alone is nearly 80% of America's.

In the decades after the cold war, the thinking was that to spend less on armies meant to spend more on infrastructure and public services and to lower debt or taxes. Since the 1960s the world has "released" about $4trn a year of spending at current prices in this way, equivalent to the global government budget for education. Now the peace dividend is turning into a "war tax". How heavy will it be?

Working out accurately who is spending what can be difficult. For international comparison, defence spending is usually reckoned as a share of GDP, at market exchange rates. By this measure global military expenditures appear close to a post-cold-war low, at around 2.5%. But market exchange rates greatly underestimate the true size of defence establishments in countries such as China and Russia, where a given dollar of military spending can pay for a lot more weapons and soldiers. The proportion will also increase in the coming years if great-power rivalry grows as expected. In a more insecure world, countries will arm themselves because their neighbours are doing so or because their allies encourage them to.

Splurging more on weapons raises several questions. What will countries buy, might money be squandered and could the global economy be damaged?

America, by far the world's largest defence spender, is devoting growing sums to research and development of future weapons. This includes hypersonic missiles, to catch up with China and Russia; "directed energy" such as powerful lasers to shoot down drones and missiles; and artificial intelligence and robotics. It is also buying as many munitions as its factories can produce—from 155mm artillery shells to anti-ship missiles. The war in Ukraine has exposed the extraordinary quantities of munitions needed in a conflict, as well as the inability of peacetime production lines to meet such demand.

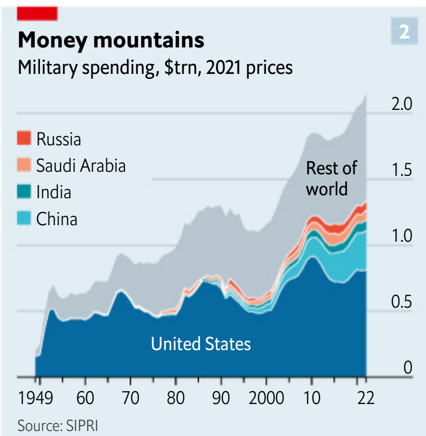
China is investing on all fronts and expenditures grew by 4.2% in real terms last year. The breakdown of its budget is opaque, not least because of "civil-military fusion" in technological development. It has developed a thicket of anti-access/area denial (A2/AD) weapons, with ground-attack and anti-ship missiles able to reach deep into the Pacific. It also has a lead in some types of hypersonic missiles (which are harder to intercept than ballistic ones). Its navy is already larger than America's.



America, Russia and China are investing in their nuclear arsenals, too. America is upgrading all legs of its "triad" of ground-, air- and submarine-launched nukes. Russia is working on esoteric weapons, such as the long-distance, nuclear-powered Poseidon torpedo designed to set off an underwater nuclear explosion that, propagandists boast, can cause destructive tidal waves. China is quickly expanding its arsenal, from several hundred warheads to 1,500 by 2035, according to the Pentagon.

Equipment is also at the top of the shopping list for many smaller countries. Germany is buying stealthy new F-35 jets as well as command-and-control systems. Poland is spending heavily on land forces—buying tanks, howitzers, precision rockets and more from America and South Korea—as well as combat aircraft. Japan is seeking, among many other things, long-range "counter-strike" missiles to hit back at China and North Korea.

This shopping spree comes with several risks. Given the bottlenecks, one danger is escalating costs, in an industry where prices can be hard to control because of long development processes, changing requirements and because defence firms operate at the technological edge, with all the associated overheads.



American defence budgets can be subject to the whims of politicians seeking benefits for their districts. Congress has persistently refused to let the air force retire obsolescent aircraft, for instance. European countries, for their part, are poor at co-ordinating procurement at scale. McKinsey, a consultancy, notes that they operate many more models of weapons than America does: 15 types of main battle tanks compared with one in America; 20 fighter jets versus seven, and so on.

Worse, the defence industry is especially prone to graft, notes Josie Stewart of Transparency International, an anti-corruption group. That is because of the secrecy that surrounds many of its dealings, its importance to national security and the "revolving door" of experts versed in its technicalities. An onrush of money could make everything worse.

There are wider concerns that big defence establishments, and the industries supplying them, will weigh down the global economy by stoking inflation or slowing growth, or both. Kenneth Rogoff of Harvard has noted that "the need to front-load massive temporary expenditures can easily push up borrowing costs".

Expectations for inflation?

Certain fears may be misplaced. Take defence inflation in America—the increase in prices facing buyers of military equipment. It is running at about 5% year on year, the highest rate in decades. During previous military build-ups this sort of defence inflation has sharply increased. In the early 1980s, a period in which Ronald Reagan built up America's military capabilities, it easily outpaced economy-wide price rises. In the Vietnam war it briefly hit 48% on an annual basis.

Even so, there is little reason to believe that the new cold war will be sharply inflationary. Not even the fiercest hawks are calling for defence spending, as a share of GDP, to return to the levels of the 1960s or 1970s. Barring a hot war between big powers, global defence spending is unlikely to grow above the low single digits of global GDP—meaning that its impact on global aggregate demand, and thus inflation, will be similarly small.

Spending can remain historically low, in large part, because defence is more efficient than it used to be. Modern armies require ever fewer people—allowing military planners to cut headcounts (though service members can become more expensive). Brazil spends 78% of its budget on

people compared with less than 50% in the West. In place of people you have better machines. Many planners bemoan the growing cost of each platform, but they improve with each iteration. "These days you can hit dozens of targets with a single bomber, rather than vice versa, which used to be the case," argues James Geurts, a retired air-force colonel who advises Lux Capital, a venture-capital firm.

Official data from America suggest that once you adjust for improvements in quality, the price of a missile has fallen in nominal terms by about 30% since the late 1970s. The price of military aircraft is about flat. Today a country can spend relatively modestly to acquire fearsome capabilities. As such, defence spending tends to fall relative to GDP, particularly in peacetime.

Defence could continue to get better and cheaper in relative terms because of the changing nature of what Dwight Eisenhower, a general-turned-president, called the "military-industrial complex". In the past defence departments exported technology to civilians—think of the global-positioning system and the internet. Increasingly, the opposite is happening, with military industries importing technology from outside.

Technological trajectories

Cyber-security, drones and satellite technology straddle both the civilian and military worlds. SpaceX, founded by Elon Musk, has launched American military satellites. Ukrainian warriors make extensive use of his Starlink constellation of satellites. America's defence department has identified 14 critical technologies deemed vital to national security. Perhaps ten or 11 of these areas are being led commercially. Tech firms such as Google and Microsoft help out with cyber-security, data-processing and artificial intelligence. Several firms provide cloud computing.

It all amounts to a change of cultural mindset from tech firms that once shunned defence as morally tainted. A defence-tech ecosystem has sprung up in America, with lots of engineering expertise in Colorado; regulation wonks in Washington, DC; aerospace types in Los Angeles; and investors in San Francisco. But it is not just an American phenomenon. About half of the biggest defence-and-aerospace firms founded within the past decade are headquartered in other parts of the world. "Founders no longer want to do the next social-media startup," says Paul Kwan of General Catalyst, an American investment firm.

Big investors in Silicon Valley, including General Catalyst and the venture-capital outfit Andreessen Horowitz, are increasingly interested in national security, broadly defined. Tech firms smell opportunity. Palantir, which specialises in big-data analytics, recently released a new defence platform powered by AI to speed up decision-making. Defence was one of the few sectors where there were more venture-capital deals in 2022 than in 2021.

There is also a growing effort to inject defence firms themselves with tech's dynamism. A recent parliamentary report in Britain noted that "old 'legacy' systems complicate tasks as routine as ordering a pair of boots". It can take ten to 20 years to produce a new plane. But rather than develop new planes every decade or so, says Jim Taiclet, the boss of Lockheed Martin, the world's largest defence contractor, his firm aims to mimic Silicon Valley by offering software upgrades to improve performance every six to 12 months.

The fiscal consequences of the new defence boom may be modest if the industry becomes more efficient. The defence-versus-everything-else trade-off was acute in decades past: in 1944 America spent 53% of its GDP on military forces. But it is less so today. If the world doubled its military spending overnight (assuming no increases in taxes or debt) public spending would need to be cut by about 5% to balance the books. Not easy, but not that hard.

What of the impact on growth? Many historians argue that defence spending is a drain on the rest of the economy. Keeping a country secure has great economic value. But once you buy a missile, say, it tends to sit in storage rather than being put to productive use. During the second world war productivity growth slowed in America, as people were pulled from the fields into munitions factories and military units. Forced limits on military spending in post-war Japan and West Germany, by contrast, coincided with huge productivity improvements in both countries.

This is only a partial story, however. Countries such as Israel and South Korea combine vibrant economies with big defence sectors. We analysed World Bank data from the 1960s to 2021, exploring the relationship between military spending and GDP growth. Both within a single country over many years, and between countries in a single year, we find practically no correlation between the two. Put simply, more guns need not mean less butter.

All guns blazing

Stockmarket indices, January 1st 2022=100

$ terms



Source: Refinitiv Datastream

More defence-related R&D could boost wider innovation. And more investment in defence capabilities could also have positive spillover effects on the rest of the economy. A recent paper by Enrico Moretti of the University of California, Berkeley, and colleagues finds that "government-funded R&D in general—and defence R&D in particular—[is] effective at raising a country's total expenditures on innovation in a given industry."

Of taxes and tanks

Governments have plenty of competing demands for their cash: among them caring for ageing populations, fighting climate change and paying higher interest on their debts. Some fear that higher taxes are inevitable, or that the cost will be passed to future generations as borrowing. Many governments will face pressure to backpedal on commitments to higher military expenditures. According to a recently leaked intelligence report, Justin Trudeau, Canada's prime minister, told NATO leaders that his country would never reach the 2% target. It is not yet clear how Japan or Poland will pay for their big rises in defence.

Goings-on in Washington, above all, will determine the size and duration of the boom. The mainstream still wants America to maintain primacy and fend off both Russia and China. But many on the "America First" populist wing want to cut support for Ukraine and, in some cases, even for the Pentagon. A third group favours redirecting military spending away from Europe and the Middle East to concentrate on China. And a fourth contains figures from the left who want less spending on defence and more on social matters. The first category, the internationalist hawks, seem to have the upper hand. Confronting America's rival is one of the few issues where there is bipartisan support.

Several things might push up spending. A crisis might escalate—or even draw America into direct fighting—forcing a military surge. Harry Truman, for instance, oversaw one as president during the Korean war. Short of conflict, a future president may opt for a military build-up. Many credit Reagan's decision to boost defence outlays as crucial to bankrupting the Soviet Union and winning the cold war.

One way or another, a new era of rearmament beckons. As General Mark Milley, chairman of America's joint chiefs of staff, told the Senate recently: "Preventing great-power war through readiness and deterrence is very expensive, but not as expensive as fighting a war." And the only thing more costly than that, as he explained, is losing one. ■

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Climate technology

A giant sucking sound

NOTREES

Can carbon removal become a trillion-dollar business?

"TODAY WE SEE the birth of a new species," declared Julio Friedmann, gazing across the bleak landscape. Along with several hundred grandees, the energy technologist had travelled to Notrees, a remote corner of the Texas oil patch, in late April. He was invited by 1PointFive, an arm of Occidental Petroleum, an American oil firm, and of Carbon Engineering, a Canadian startup backed by Bill Gates. The species in question is in some ways akin to a tree—but not the botanical sort, nowhere to be seen on the barren terrain. Rather, it is an arboreal artifice: the world's first commercial-scale "direct air capture" (DAC) plant.

Like a tree, DAC sucks carbon dioxide from the air, concentrates it and makes it available for some use. In the natural case, that use is creating organic molecules through photosynthesis. For DAC, it can be things for which humans already use CO_2, like adding fizz to drinks, spurring plant growth in greenhouses or, in Occidental's case, injecting it into oilfields to squeeze more drops of crude from the deposits.

Yet some of the 500,000 tonnes of CO_2 that the Notrees plant will capture annually, once fully operational in 2025, will be pumped beneath the plains in the service of a grander goal: fighting climate change. For unlike the carbon stored in biological plants, which can be released when they are cut down or burned, CO_2 artificially sequestered may well stay sequestered indefinitely. Companies that want to net out some of their own carbon emissions but do not trust biology-based offsets will pay the project's managers per stashed tonne. That makes the Notrees launch the green shoot of something else, too: a real industry.

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Carbon Engineering and its rivals, like Climeworks, a Swiss firm, Global Thermostat, a Californian one, and myriad startups worldwide, are attracting capital. Occidental plans to build 100 large-scale DAC facilities by 2035. Others are trying to mop up CO_2 produced by power plants and industrial processes before it enters the atmosphere, an approach known as carbon capture and storage (CCS). In April ExxonMobil unveiled plans for its newish low-carbon division, whose long-term goal is to offer such decarbonisation as a service for industrial customers in sectors, like steel and cement, where emissions are otherwise hard to abate. The oil giant thinks this sector could be raking in annual revenues of $6trn globally by 2050.

The boom in carbon removal, whether from the air or from industrial point sources, cannot come fast enough. The UN-backed Intergovernmental Panel on Climate Change assumes that if Earth is to have a chance of warming by less than 2°C above pre-industrial levels, renewables, electric vehicles and other emissions reductions are not enough. CCS and sources of "negative emissions" such as DAC must play a part. The Department of Energy calculates that America's climate targets require capturing and storing between 400m and 1.8bn tonnes of CO_2 annually by 2050, up from 20m tonnes today. Wood Mackenzie, an energy consultancy, reckons various forms of carbon removal account for a fifth of the global emissions reductions needed to emit no net greenhouse gases by ▸▸

2050. If Wood Mackenzie is right, this would be equivalent to sucking up more than 8bn tonnes of CO_2 annually. That means an awful lot of industrial-scale carbon-removal ventures (see chart 1).

For years such projects were regarded as technically plausible, perhaps, but uneconomical. An influential estimate by the American Physical Society in 2011 put the cost of DAC at $600 per tonne of CO_2 captured. By comparison, permits to emit one tonne trade at around $100 in the EU's emissions-trading system. CCS has been a perennial disappointment. Simon Flowers of Wood Mackenzie says the power sector has spent some $10bn over the years trying to get it to work, without much success.

Backers of the new crop of carbon-removal projects think this time is different. One reason for their optimism is better and, crucially, cheaper technology (see chart 2). The cost of sequestering a tonne of CO_2 beneath Notrees has not been disclosed, but a paper from 2018 published in the journal *Joule* put the price tag for Carbon Engineering's DAC system at between $94 and $232 per tonne when operating at scale. That is much less than $600, and not a world away from the EU's carbon price.

CCS, which should be cheaper than DAC, is also showing a bit more promise. Svante, a Canadian startup, uses inexpensive materials to capture CO_2 from dirty industrial flue gas for around $50 a tonne (though that excludes transport and storage). Other companies are converting the captured carbon into products which they then hope to sell at a profit. CarbonFree, which works with US Steel and BP, a British oil-and-gas company, takes CO_2 from industrial processes and turns it into speciality chemicals. LanzaTech, which has a commercial-scale partnership with ArcelorMittal, a European steel giant, and several Chinese industrial firms, builds bioreactors that convert industrial carbon emissions into useful materials. Some make their way into portable carbon stores, such as Lululemon yoga pants.

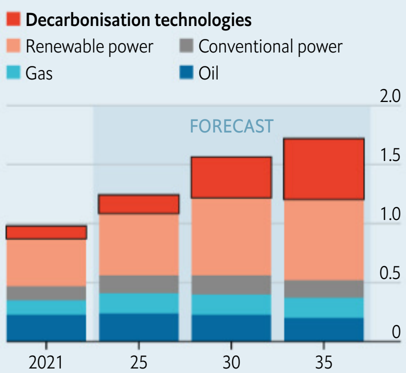
All told, carbon capture, utilisation and storage (CCUS in the field's acronym-rich jargon) may attract $150bn in investments globally this decade, predicts Wood Mackenzie. Assessing current and proposed projects, the consultancy reckons that global CCUS capacity—which on its definition includes CCS, the sundry ways to put the captured carbon to use, as well as DAC—will rise more than sevenfold by 2030.

The second—possibly bigger—factor behind the recent flurry of carbon-removal activity is government action. One obvious way to promote the industry would be to make carbon polluters pay a high enough fee for every tonne of carbon they emit that it would be in their interest to pay carbon removers to mop it all up, either at the source or from the atmosphere. A reasonable carbon price like the EU's current one may, just about, make CCS viable. For DAC to be a profitable enterprise, though, the tax would probably need to be a fair bit higher, which could smother economies still dependent on hydrocarbons. That, plus the dim prospects for a global carbon tax, means that state support is needed to bridge the gap between the current price of carbon and the cost of extracting it.

The emerging view among technologists, investors and buyers is that carbon removal will develop like waste management did decades ago—as an initially costly endeavour that needs public support to get off the ground but can in time turn profitable. Policymakers are coming over to this view. Some of the hundreds of billions of dollars in America's recently approved climate handouts are aimed at bootstrapping the industry into existence. An enhanced tax credit included in one of the laws, the Inflation Reduction Act, provides up to $85 per tonne of CO_2 permanently stored, and $60 per tonne of CO_2 used for enhanced oil recovery, which also sequesters CO_2 (albeit in order to produce more hydrocarbons). Clio Crespy of Guggenheim Securities, an investment firm, calculates that this credit increases the volume of emissions in America that are "in the money" for carbon removal more than ▸▸

Venturing into scrubland 1

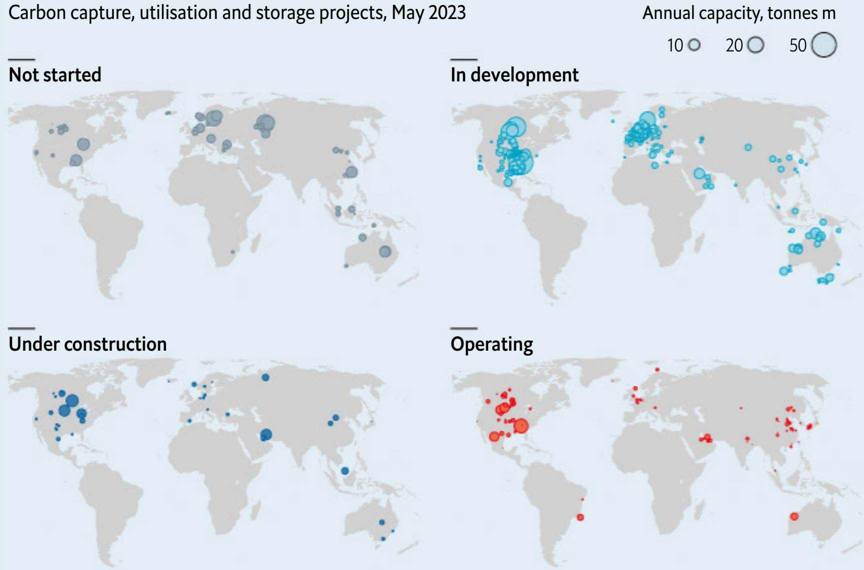
Worldwide energy investment, $trn



Source: McKinsey & Company

An improved investment climate

Carbon capture, utilisation and storage projects, May 2023

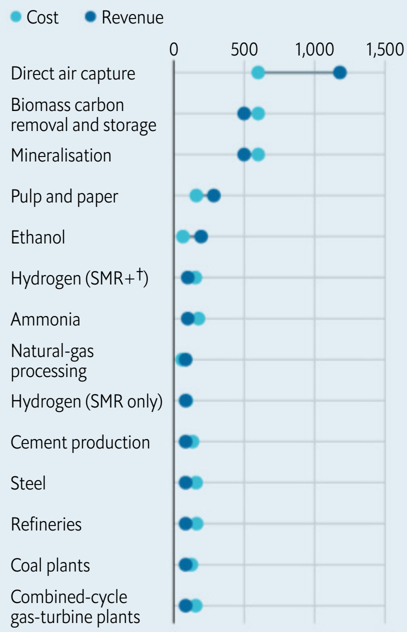


Source: Wood Mackenzie

Removal services 2

US, costs and revenues from CO_2 abatement

By industry/technology, 2023 estimates*, $ per tonne



*Top of range †Steam methane reforming and steam production with 90% capture

Source: US Department of Energy

tenfold. The EU's response to America's climate bonanza is likely to promote carbon removal, too. Earlier this year the EU and Norway announced a "green alliance" to boost regional carbon-capture plans.

Buyers of carbon credits are starting to line up. Tech firms, keen to burnish their progressive credentials, are leading the way. On May 15th Microsoft said it would purchase (for an undisclosed sum) 2.7m tonnes of carbon captured over a decade from biomass-burning power plants run by Orsted, a Danish clean-energy firm, and pumped underneath the North Sea by a consortium involving Equinor, Shell and TotalEnergies, three European oil giants. On May 18th Frontier, a buyers' club with a $1bn carbon-removal pot bankrolled mainly by Alphabet, Meta, Stripe and Shopify, announced a $53m deal with Charm Industrial. The firm will remove 112,000 tonnes of CO_2 between 2024 and 2030 by converting agricultural waste, which would otherwise emit carbon as it decomposes, into an oil that can be stored underground.

Big tech is not alone. NextGen, a joint venture between Mitsubishi Corporation, a Japanese conglomerate, and South Pole, a Swiss developer of carbon-removal projects, intends to acquire over 1m tonnes in certified CO_2-removal credits by 2025, and sell them on to others. It has just announced the purchase of nearly 200,000 tonnes' worth of such credits from 1PointFive and two other ventures. The end-buyers include SwissRe and UBS, two Swiss financial giants, Mitsui OSK Lines, a Japanese shipping firm, and Boston Consulting Group. On May 23rd JPMorgan Chase, America's biggest bank, said it would spend over $200m in the coming years on buying credits from carbon-removal firms.

Maybe the biggest sign that the carbon-removal business has legs is its embrace by the oil industry. Occidental is keen on DAC. ExxonMobil says it will spend $17bn from 2022 to 2027 on "lower-emissions investments", with a slug going to CCS. Its main American rival, Chevron, is hosting Svante at one of its Californian oilfields. As the Microsoft deal shows, their European peers want to convert parts of the North Sea floor into a giant carbon sink. Equinor and Wintershall, a German oil-and-gas firm, have already secured licences to stash carbon captured from German industry in North Sea sites. Hugo Dijkgraaf, Wintershall's technology chief, thinks his firm can abate up to 30m tonnes of CO_2 per year by 2040. The idea, he says, is to turn "from an oil-and-gas company into a gas-and-carbon-management company".

Saudi Arabia, home to Saudi Aramco, the world's oil colossus, has a goal of increasing CCS capacity fivefold in the next 12 years. Its mega-storage facility at Jubail Industrial City is expected to be operational by 2027. ADNOC, Aramco's Emirati counterpart, wants to increase its capacity sixfold by 2030, to 5m tonnes a year.

The oilmen's critics allege that their enthusiasm for carbon removal is mainly about improving their reputations in the eyes of increasingly climate-conscious consumers, while pumping more crude for longer. There is surely some truth to this. But given the urgent need to both capture carbon at source and achieve voluminous negative emissions, the willing involvement of giant oil firms, with their vast capital budgets and useful expertise in engineering and geology, is to be welcomed. ■

Deutsche Bahn

Trying to get back on track

BERLIN

Why Deutsche Bahn has gone off the rails

IN MID-MAY GERMANS were bracing for the third, and longest, national rail strike this year. Deutsche Bahn (DB) was locked in a dispute over pay with EVG, the union representing most German railway workers, including 180,000 at the state-run behemoth. At the last minute union leaders called off a 50-hour stoppage that was going to begin on the evening of May 14th. German travellers breathed a sigh of relief—and then gasped as DB failed to reinstate all of the 50,000 cancelled services. The next day roads were clogged by commuters who, worried about getting stuck at a train station, took the car instead.

On May 23rd DB and the union met for a fourth round of wage talks, with no long-term resolution in sight. And labour unrest is only one of many fronts on which DB is fighting. Once a source of national pride, it has become the butt of bad jokes ("We have one about DB but we don't know whether it will work"). In April just 70% of its long-distance trains were on time. And even that was an improvement on the whole of last year, when only 60% were punctual; the company's (unambitious) goal is at least 80%. DB services are "too crowded, too old and too *kaputt*", Berthold Huber, who sits on DB's board, told the *Süddeutsche Zeitung*, a daily, this month.



Down and out in the depot

DB's woes are the result of poor management, a bloated bureaucracy, political interference and years of underinvestment. In 2004 DB's annual budget for the construction and upgrading of railway lines was cut from €4bn ($5bn) a year to €1.5bn, notes Christian Böttger of the University of Applied Sciences in Berlin. It has edged up since but last year was still only €1.9bn. This year it will be €2bn. The railway business has been bleeding money for years; in 2022 it made an operating loss of €500m. DB's overall operating profit of €1.3bn, on revenues of €56bn, was all down to its logistics arm, DB Schenker, which has benefited from the uptick in e-commerce and now contributes nearly half of sales.

Vowing to make up for the failings of its predecessors, Olaf Scholz's newish cabinet has ambitious plans for DB. It wants to pump an extra €45bn into the network, hoping almost to double the number of passenger journeys by 2030 to around 4bn, and to increase freight volumes by 25%. This year DB is beginning to renovate and modernise 650 train stations, as well as upgrading 2,000km of tracks, 1,800 switch points and 200 bridges. It will also add another 500 people to its 4,300-strong team of security personnel, who are tasked with protecting train tracks against mischief-makers (last October DB was hit by suspected sabotage, causing the suspension of all services in northern Germany). And it is accelerating the digitisation of railway traffic, from signals and switches to digital "twins" of wagons ferrying goods.

In time this may improve passengers' lot. But not soon. This year carriages may get more packed: since May 1st Germans can buy a monthly *Deutschland* ticket, valid on all regional and local trains, for just €49. Delays and missed connections are forecast to be worse than in 2022, in part owing to all those upgrade works. And DB may slip into the red. It is forecasting a loss of €1bn from operations in 2023, because of the investments, as well as high cost inflation that is politically tough to pass on to travellers (who, in a further drain on DB cash, can demand compensation for all the delays). "The pretence of running an economically viable business was abandoned ...long ago," says Mr Böttger. It is all about getting more cash from the state. ■

Semiconductors

Muscle and memory

SINGAPORE

Asian businesses are being dragged into the chip war

Unlike logic chips, which process information, memory chips, which store it, looked less vulnerable to the Sino-American techno-tussle. Such semiconductors are commodities, less high-tech than microprocessors and so less central to the great-power struggle for technological supremacy. That changed on May 21st, when the Chinese government banned memory chips made by Micron from critical-infrastructure projects. The restriction hurts the American chipmaker, which last year derived 11% of its revenue from mainland China. It also opens up a new front in the transpacific chip war—one which the countries that are near China but allies of America are being roped into.

By opening a gap in the market, the ban creates an opportunity for the world's two biggest memory-chip makers, Samsung Electronics and SK Hynix, both from South Korea. They made 16% and 44% of their respective sales in China in 2021. With Micron frozen out of critical infrastructure—and looking riskier to other Chinese buyers—the South Korean duo can pick up more contracts. That is what investors seem to have concluded: Samsung's share price is at its highest since April 2022; SK Hynix's was last this lofty in August.

The prospect of a windfall for South Korea's chipmakers is, however, complicated by the country's blend of American and Chinese interests. President Joe Biden's administration has made no official demand asking its counterpart in Seoul to prevent the South Korean firms from jumping in to fill orders for which Micron will no longer be able to compete. But it is said to be lobbying for this behind closed doors. The 28,500 American troops stationed in South Korea to protect it against its despotic nuclear-armed neighbour to the north lend weight to such requests.

At the same time, Seoul has little interest in damaging its commercial ties with China. South Korea exported $156bn-worth of goods, equivalent to 9% of its GDP, to the country in 2022, and imported roughly the same amount. That makes China its largest trading partner by some distance. On May 24th the South Korean government formally asked America to review the rules which limit American subsidies to chipmakers if the recipient expands its Chinese production capacity of advanced chips by more than 5% over ten years.

South Korea is, in other words, treading



Silicon materiel

carefully. Any public attempt to guide Samsung and SK Hynix risks upsetting Beijing, which is already fuming: on May 22nd a spokesperson for China's foreign ministry said America had "coerced other countries into imposing export restrictions on China for the sole purpose of maintaining its hegemonic interests". The official line from Seoul is, for the time being, that it is up to the companies how they respond. That strategic ambiguity may not be viable for much longer. ■

Shareholder capitalism

Reactivated

If you think activist investors have gone soft, think again

Carl Icahn owns 1.4% of Illumina, a genomics giant with a market value of $34bn. Mr Icahn's modest stake belies his ambition. As the elder statesman of activist investing, the 87-year-old aims to convert small shareholdings into considerable influence. Mr Icahn has nominated three directors to the board of Illumina, whose share price has fallen by 60% since its peak in 2021, in part owing to hubristic dealmaking. On May 25th, after *The Economist* was published, Mr Icahn's colourful campaign against the firm's bosses (16 letters, drawing on Shakespeare and Lincoln) will reach a climax at its annual general meeting. It is one of the hottest tickets in this year's "proxy season", when most American firms elect their boards of directors.

After a dismal year, when activist funds lost 16% of their value as stockmarkets slumped, many observers were expecting a spring offensive. Fund managers had a busy end to 2022, taking advantage of those sunken stockmarket valuations. New corporate-governance rules introduced last September make it easier for dissident investors to obtain board seats, by compelling firms to include all nominees on proxy ballots and allowing shareholders to mix and match those proposed by the company and by its detractors, rather than pick alternative slates. "Asked in December, I would have said this is going to be a proxy season for the ages," says Kai Liekefett of Sidley Austin, a law firm.

Five months on things are, at first blush, looking less epochal. In the first quarter of 2023 the number of new activist campaigns in America was a third lower than a year earlier, according to Lazard, an investment bank. With dealmaking at its most subdued in a decade, "transactional" funds, shorter-term investors which agitate for anything from spin-offs of units to the sale of the whole company, are finding little traction. Few big-ticket fights made it to contested votes for board spots.

Yet the quietude may be deceiving. For one thing, many targets, worried that the new rules favour activists, have sought a truce rather than risk a painful proxy brawl. In February Trian, an activist outfit run by Nelson Peltz, ended its battle against Disney after the entertainment behemoth presented a restructuring plan. Elliott Management, another activist giant, called off plans to nominate directors to the board of Salesforce in March, two months after the software firm appointed the boss of ValueAct, another well-known fund, to its board. This month Shake Shack, a fast-food retailer, announced a settlement agreement with Engaged Capital, a smaller activist fund. Such truces may be less entertaining for outside observers than Mr Icahn's antics, but for the activists they are wins nonetheless.

Fifteen years of rock-bottom interest rates and cheap money have created a target-rich environment. As the cost of capital rises, activists spy plenty of management teams that could do with more discipline. On May 11th Elliott revealed it owned 10% of Goodyear, a tyremaker with a market value of around $4bn, along with a plan to sell retail stores and bolster margins. Four days later the hedge fund announced a 13% interest in NRG, an $8bn energy company, calling its recent acquisition of Vivint, a home-security firm, "the single worst deal" the power-and-utilities sector has seen in the past decade. Both campaigns attempt to focus managers' minds and streamline the companies' operations. The share prices of Goodyear and NRG jumped by 21% and 3%, respectively, on the news of Elliott's stakes.

Activists are also pursuing larger prey. ▸▸

Campaigns involving companies with market capitalisations above $50bn made up a record share of activity during the first quarter of 2023. Some funds are taking aim at technology firms, which accounted for a quarter of campaigns in America last year. Tech's retreat from the pandemic-induced boom in all things digital presents activists with an opportunity to force cost-cutting or shedding unprofitable businesses. Technology giants' vast market capitalisations—Salesforce is worth $200bn—allow activists to deploy large sums without passing ownership thresholds that would trigger disclosures of their stakes before they are ready to launch the public-facing part of their campaigns.

Not even the biggest of big tech, hitherto largely spared the activists' rod, is safe. This month Pershing Square and Third Point, two hedge funds, revealed investments in Alphabet, Google's $1.5trn parent company. Third Point insists its stake is not an activist campaign. It and Pershing may still benefit from the earlier efforts of TCI, another fund already on the warpath against Alphabet's high costs and cash-burning moonshots.

American activists will also increasingly export their version of shareholder capitalism abroad. In addition to large regional players, such as Cevian Capital in Europe, high-profile American fund managers have become familiar faces in the world's business circles, making it easier for them to engage with other shareholders. Even as new campaigns in America languished at the start of the year, activity in Europe and Asia has surged.

Take Japan. Many of those who picked fights there in the past, like T. Boone Pickens, a corporate raider who took on Koito Manufacturing in the 1980s, or TCI, which in 2008 dropped its investment in J-Power, an electric utility, came back bruised. Now, thanks to corporate-governance reforms over the past decade, Japan Inc has had no choice but to become more receptive. New stockmarket guidelines will go so far as to ask companies worth less than the book value of their equity to disclose their initiatives for improvement.

Activists do not always prevail. On May 25th ValueAct lost a proxy battle to elect four directors to the board of Seven & i, the Japanese conglomerate which owns the 7-Eleven chain of convenience stores. This month Mr Icahn himself became the target of an activist attack. A short-seller, Hindenburg Research, claims that his listed vehicle, Icahn Enterprises, is overvalued. In response to the assault, Mr Icahn denied Hindenburg's allegations and defended the style of investing he pioneered. Activists, he argued, "breach the walls" of badly run companies. Whether or not Mr Icahn's own firm deserves activist treatment, plenty of others certainly do. ■

Commercial property

Zell-side analysis

NEW YORK

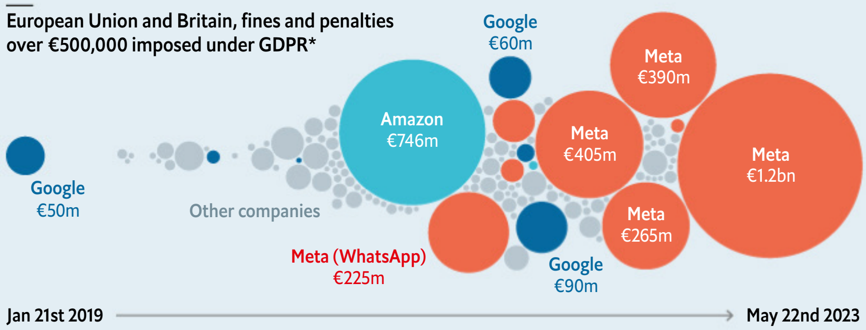
What would one of America's mightiest real-estate tycoons invest in next?

SAM ZELL called himself "the Grave Dancer", even though, as he explained, his penchant for buying distressed assets "wasn't so much dancing on graves as ...raising the dead". In the mid-1970s, when he coined this nickname, America's property market was struggling. Mr Zell, who died on May 18th at the age of 81 and with a fortune of more than $5bn, had already made good money erecting and managing apartment buildings in small but growing cities. But after others cottoned on to the same opportunity, the market became saturated. Supply exceeded demand; property prices crashed. Undeterred, he bought flats, offices and retail space, often for pennies. As America's economy boomed in the 1980s, their value soared.

He danced on more graves after Black Monday in October 1987. With rents and occupancy rates falling, indebted property owners needed money, and turned to capital markets. He created a fund with Merrill Lynch, an investment bank, that raised capital from investors to buy distressed properties. Such real-estate investment trusts (REITs), which own, run or finance properties, date back to the 1960s. But it was Mr Zell who helped usher in their modern version, says Michael Knott of Green Street, a firm of real-estate analysts.

Mr Zell was born to Polish-Jewish parents who narrowly escaped the Holocaust. He got his start in business early, buying *Playboy* magazines in downtown Chicago, where he went to Hebrew school, for 50 cents and selling them to classmates in the suburb where he lived for $3. He wore jeans to work long before office-casual was a thing, and took motorcycle-riding trips around the world with a group of friends, "Zell's Angels". He explained his business philosophy as "If it ain't fun, we don't do it." His timing was impeccable. In 2007 he ▸▸

Fine and dandy



European Union, selected fines for antitrust or GDPR* violations

Company	Year	Reason	Fine amount, €bn	% of global operating profit
Google	2018	Search-engine dominance	4.3	15
Google	2017	Search-engine dominance	2.4	10
Google	2019	Online-advertising abuse	1.5	5
Meta	2023	Data non-compliance	1.2	3
Qualcomm	2018	Market dominance	1.0	31
Amazon	2021	Data non-compliance	0.7	3
Mastercard	2019	Elevated processing fees	0.6	7
Meta	2022	Data non-compliance	0.4	1

Sources: CMS GDPR Enforcement Tracker; S&P Global Market Intelligence; *The Economist* *General Data Protection Regulation

Techno-transgressions

On May 22nd the EU whacked Meta with a €1.2bn ($1.3bn) fine for transferring users' data to America, in breach of European privacy rules (which turn five this week). The social-media giant is a repeat offender when it comes to privacy breaches. But the EU has reserved the biggest penalties for other sins. Between 2017 and 2019 Google was fined a total of over €8bn for abusing its dominance in search and advertising. Both Google and Meta can afford it; the fines represent a fraction of their profits.

sold his office-landlord business to Blackstone, a private-equity giant, for $39bn. A year later Lehman Brothers collapsed—and the commercial-property market with it.

Where would a young Mr Zell look to build his fortune today? Stephanie Wright of New York University thinks that, given his preference for easy-to-understand markets with limited competition, outdoor storage facilities could pique his interest. They are big but employ few people, meaning cities dislike them and limit their growth, even though demand remains robust. The same goes for parks of prefabricated homes, the business of the first company Mr Zell ever took public, in 1993. People still buy them, yet zoning laws restrict them. Once a house is installed on the property, homeowners rarely move it. On the rare occasions when one does, the developer still has the land and can put another home in its place.

Conventional wisdom argues for staying away from the office and retail assets that helped make Mr Zell a billionaire. American malls have long been written off for dead, bricks and mortar deemed to be no match for e-commerce. In the era of remote and hybrid work, leasing activity is slowing across most big American cities even as employment continues to rise, according to CBRE, a property manager. Office-vacancy rates are increasing—to 17.8% across America in the first three months of 2023, the highest level in 30 years. Even though some upscale malls and office buildings are thriving, many older and shabbier properties look destined for obsolescence. Yet to Mr Zell those failing assets may have looked the most attractive of all. For in failure, as any grave dancer knows, lies opportunity. ■

Bartleby The corporate summer camp



Why have executive retreats become so extravagant?

ICE BATHS, infrared saunas, white-water rafting, fly-fishing, archery workshops, whisky tastings, yoga at sunrise, shooting clay pigeons, go-kart races, mountain-biking in Norway, falconry in Ireland, climbing up a glacier in Alberta, singing "Kumbaya" around a campfire. These seemingly disparate activities have one thing in common: all of them are real examples of the contemporary corporate off-site.

Your columnist, a guest Bartleby, cringes at the idea of PowerPoint presentations followed by role-playing exercises and mandatory games. She prefers to let the ties with her colleagues deepen in organic ways. Still, the executive retreat has become an annual business tradition. The idea is that, by disconnecting employees from their day-to-day routine, companies can build camaraderie and foster creativity. And it has grown in importance.

A splashy, exciting getaway once a year may help retain executives in a tight labour market (and is cheaper than fatter monthly pay cheques). In the era of remote work—without the thousands of micro-interactions that happen in the office—team-building trips have also gained a structural role. Suddenly, off-sites are no longer an afterthought but lodged near the heart of corporate HR strategy. Not participating is not an option; so what if co-workers end up meeting in person for the first time wearing flip-flops?

It used to be barbecues and softball games. Retreats moved things a notch higher in style and expense. Just three months after Steve Jobs left Apple and started another company in 1985, he whisked his employees to Pebble Beach for their first off-site. As corporate psychology boomed in the 1990s, team-building retreats became entrenched. By 2015 Uber was reportedly offering Beyoncé $6m to perform for its employees (no, not the drivers) at a corporate event in Las Vegas (the pop star was apparently paid in the then-hot startup's stock rather than cash). WeWork, an office-rental firm with tech pretensions, used to host raucous summer retreats around the world; employees were encouraged to dance the night away to electronic music.

Given Uber's lacklustre ride since its initial public offering in 2019, current management has gone easy on A-listers. WeWork revised its staff-entertainment policies after its party-loving founder and CEO, Adam Neumann, was forced out in the wake of its abortive IPO later that year. But the trend for the corporate getaway has, if anything, intensified.

To stand out, companies try to make their retreats as bespoke and exotic as possible. Those firms that cannot afford pop stars can have an astronaut regale executives with tales of life in space—not Queen Bey, exactly, but potentially enthralling to the nerdier elements of the workforce. Many organisers opt for the great outdoors, perhaps in the belief that the sublime will unleash authenticity. Wineries around the world are now expanding to accommodate retreats featuring winemaking lessons; employees stomp grapes. A Montana ranch offers corporate clients paintball, flag-capturing and dummy-cattle-roping. Butchershop, a brand-strategy agency, held its second summit in Costa Rica; activities included zip-lining, horseback riding through the jungle and jumping off a cliff into the water.



A sure-fire way for a business to make its retreat memorable is to thrust participants into adversity. Battling the elements together is supposed to foster team spirit, but zealous organisers have occasionally been known to overdo it. One large European company sent executives to the Arctic Circle in midwinter. They endured frigid temperatures for days, without a fresh change of clothes. Walking on hot coals—an ancient ritual recast as a team-building exercise—led to the injury of 25 employees of a Swiss ad agency in Zurich.

It is unclear what many days away achieves, except for straining the expense budget and consuming valuable time. Returning to your desk with frostbite or burnt feet is unlikely to boost your productivity. Even if you escape injury you may have lost esteem for the co-worker who drank too much and delivered a maudlin monologue. Walking on fire with colleagues may be meant to encourage spiritual healing and to put employees and bosses on equal—and equally uncomfortable—footing. Yet it is walking through metaphorical fire which actually causes teams to bond. That happens not at a corporate retreat but after years of working together.

Schumpeter | Non-proliferation treaties

Why the tech giants have an interest in regulating generative AI



One of the joys of writing about business is that rare moment when you realise conventions are shifting in front of you. It brings a shiver down the spine. Vaingloriously, you start scribbling down every detail of your surroundings, as if you are drafting the opening lines of a bestseller. It happened to your columnist recently in San Francisco, sitting in the pristine offices of Anthropic, a darling of the artificial-intelligence (AI) scene. When Jack Clark, one of Anthropic's co-founders, drew an analogy between the Baruch Plan, a (failed) effort in 1946 to put the world's atomic weapons under UN control, and the need for global co-ordination to prevent the proliferation of harmful AI, there was that old familiar tingle. When entrepreneurs compare their creations, even tangentially, to nuclear bombs, it feels like a turning point.

Since ChatGPT burst onto the scene late last year there has been no shortage of angst about the existential risks posed by AI. But this is different. Listen to some of the field's pioneers and they are less worried about a dystopian future when machines outthink humans, and more about the dangers lurking within the stuff they are making now. ChatGPT is an example of "generative" AI, which creates humanlike content based on its analysis of texts, images and sounds on the internet. Sam Altman, CEO of OpenAI, the startup that built it, told a congressional hearing this month that regulatory intervention is critical to manage the risks of the increasingly powerful "large language models" (LLMs) behind the bots.

In the absence of rules, some of his counterparts in San Francisco say they have already set up back channels with government officials in Washington, DC, to discuss the potential harms discovered while examining their chatbots. These include toxic material, such as racism, and dangerous capabilities, like child-grooming or bomb-making. Mustafa Suleyman, co-founder of Inflection AI (and board member of *The Economist*'s parent company), plans in coming weeks to offer generous bounties to hackers who can discover vulnerabilities in his firm's digital talking companion, Pi.

Such caution makes this incipient tech boom look different from the past—at least on the surface. As usual, venture capital is rolling in. But unlike the "move fast and break things" approach of yesteryear, many of the startup pitches now are first and foremost about safety. The old Silicon Valley adage about regulation—that it is better to ask for forgiveness than permission—has been jettisoned. Startups such as OpenAI, Anthropic and Inflection are so keen to convey the idea that they won't sacrifice safety just to make money that they have put in place corporate structures that constrain profit-maximisation.

Another way in which this boom looks different is that the startups building their proprietary LLMs aren't aiming to overturn the existing big-tech hierarchy. In fact they may help consolidate it. That is because their relationships with the tech giants leading in the race for generative AI are symbiotic. OpenAI is joined at the hip to Microsoft, a big investor that uses the former's technology to improve its software and search products. Alphabet's Google has a sizeable stake in Anthropic; on May 23rd the startup announced its latest funding round of $450m, which included more investment from the tech giant. Making their business ties even tighter, the young firms rely on big tech's cloud-computing platforms to train their models on oceans of data, which enable the chatbots to behave like human interlocutors.

Like the startups, Microsoft and Google are keen to show they take safety seriously—even as they battle each other fiercely in the chatbot race. They, too, argue that new rules are needed and that international co-operation on overseeing LLMs is essential. As Alphabet's CEO, Sundar Pichai, put it, "AI is too important not to regulate, and too important not to regulate well."

Such overtures may be perfectly justified by the risks of misinformation, electoral manipulation, terrorism, job disruption and other potential hazards that increasingly powerful AI models may spawn. Yet it is worth bearing in mind that regulation will also bring benefits to the tech giants. That is because it tends to reinforce existing market structures, creating costs that incumbents find easiest to bear, and raising barriers to entry.

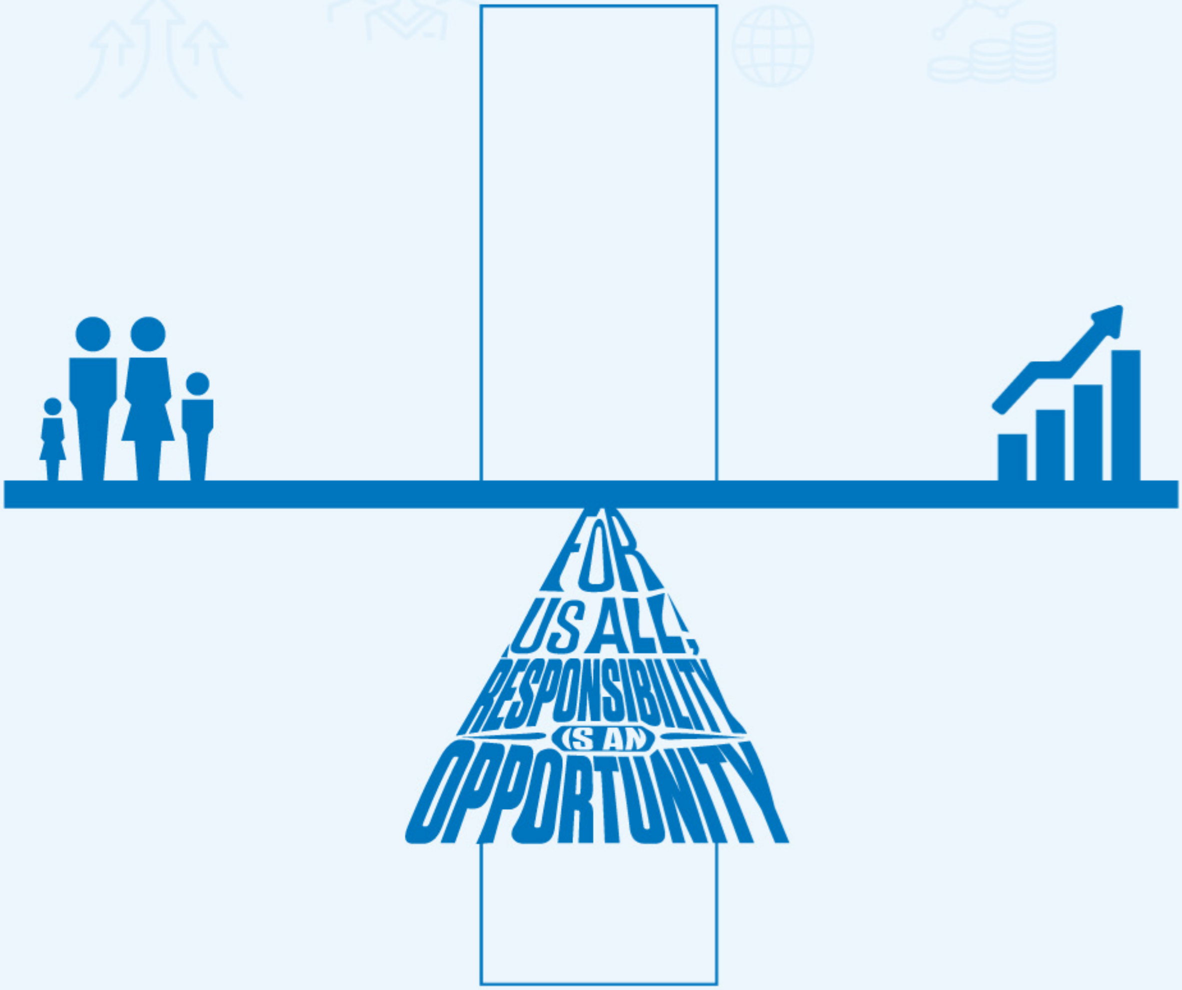
This is important. If big tech uses regulation to fortify its position at the commanding heights of generative AI, there is a trade-off. The giants are more likely to deploy the technology to make their existing products better than to replace them altogether. They will seek to protect their core businesses (enterprise software in Microsoft's case and search in Google's). Instead of ushering in an era of Schumpeterian creative destruction, it will serve as a reminder that large incumbents currently control the innovation process—what some call "creative accumulation". The technology may end up being less revolutionary than it could be.

LLaMA on the loose

Such an outcome is not a foregone conclusion. One of the wild cards is open-source AI, which has proliferated since March when LLaMA, the LLM developed by Meta, leaked online. Already the buzz in Silicon Valley is that open-source developers are able to build generative-AI models that are almost as good as the existing proprietary ones, and hundredths of the cost.

Anthropic's Mr Clark describes open-source AI as a "very troubling concept". Though it is a good way of speeding up innovation, it is also inherently hard to control, whether in the hands of a hostile state or a 17-year-old ransomware-maker. Such concerns will be thrashed out as the world's regulatory bodies grapple with generative AI. Microsoft and Google—and, by extension, their startup charges—have much deeper pockets than open-source developers to handle whatever the regulators come up with. They also have more at stake in preserving the stability of the information-technology system that has turned them into titans. For once, the desire for safety and for profits may be aligned. ■

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Political dysfunction

Nightmare scenario

WASHINGTON, DC

What happens if America defaults on its debt?

THE AMERICAN CONSTITUTION vests legislative power in Congress. Over the coming days the political body may arrogate to itself a metaphysical power: transforming the utterly unthinkable into hard reality. By failing to raise America's debt ceiling in time, Congress could drive the country into its first sovereign default in modern history. A collapse in stockmarkets, a surge in unemployment, panic throughout the global economy—all are firmly within the realm of possibility.

How this would happen is straightforward. America has until roughly June 1st to raise its debt limit—a politically determined ceiling on total gross federal borrowing, currently $31.4trn—or it will run out of cash to cover all its obligations, from military salaries to sending cheques to pensioners and making bond payments.

The country has faced such deadlines in the past, lulling observers into the belief that it will, once again, raise its debt limit at the last minute. But its politicians are more fractious than during past standoffs. Kevin McCarthy, the Republican speaker of the House of Representatives, is pushing for swingeing spending cuts, as he must to keep his narrow, quarrelsome majority together. The Republican proposal—to reset some federal spending in 2024 at the level it was at in 2022—would equate to a roughly 25% cut in real terms, all but demolishing President Joe Biden's legislative achievements in green-energy investment, and perhaps throwing the economy into a deep recession.

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That, predictably, is a non-starter for Democrats, who are also resisting Republican demands to expand work requirements for welfare recipients. Negotiations have broken down several times over the past week. Adding to the complexity is an intervention from Donald Trump, who remarked that the consequences of an American default "could be maybe nothing"—an insouciance that has emboldened the Republican fringe. The stockmarket, basically flat over the past month, reflects the common view among investors that a compromise will ultimately be reached. That could well turn out to be complacent. Moreover, any agreement may merely extend the debt ceiling by just another year or two, meaning that America is likely once again to find itself in the same mess.

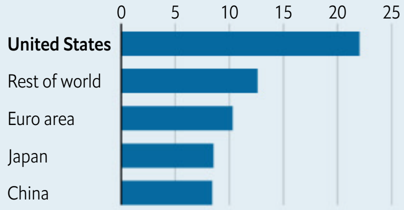
The Treasury, working with the Federal Reserve, has a fallback plan if Congress does not raise the debt limit. Known as "payment prioritisation", this would stave off a default by paying interest on bonds and cutting back even more from other obligations. Yet putting bondholders ahead of pensioners and soldiers would be unpalatable, and may prove unsustainable. What's more, prioritisation would rely on the continued success of regular auctions to replace maturing Treasury bonds. There ▸▸

is no guarantee that investors would trust such a dysfunctional government. With each passing day, an American default would loom as an ever more serious risk.

Default could come in two flavours: a short crunch or a longer crisis. Although the consequences of both would be baleful, the latter would be much worse. Either way, the Fed would have a crucial role to play in containing the fallout; this crucial role would, however, be one of damage-limitation. Every market and economy around the world would feel the pain, regardless of the central bank's actions.

America is home to the world's biggest sovereign-debt market: with $25trn of bonds in public hands, it accounts for about one-third of the global total (see chart 1). Treasuries are viewed as the ultimate risk-free asset—offering a guaranteed return for corporate cash managers, governments elsewhere and investors big and small—and as a baseline for pricing other financial instruments. They are the bedrock of daily cash flows. Short-term "repo" lending in America, worth about $4trn a day and a lifeblood for global financial markets, largely runs by using Treasuries as collateral. All this infrastructure would be thrown into doubt.

Goliath
Sovereign-bond markets, $trn
December 31st 2021



Source: Bank for International Settlements

X-asperation

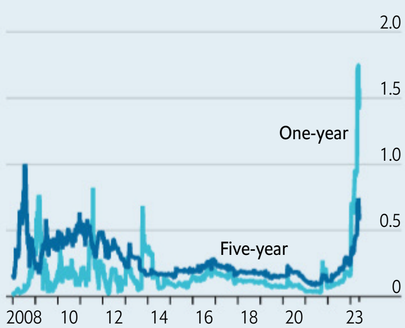
By definition, a default would initially be a short-term disruption. An official at the Fed says that it would resemble a liquidity crisis. Assume that the government defaults on bills and bonds coming due after the "x-date" when it runs out of cash (this is estimated by the Treasury to be June 1st, if not perhaps a little after that, depending on tax receipts). Demand may still remain firm for debt with later maturities on the assumption that Congress would come to its senses before too long. Indeed, a preview of the divergence can already be seen. Treasury bills due in June currently have annualised yields of about 5.5%; those in August are closer to 5%. This gap would probably widen precipitously in the event of a default. The cost of insuring against a default on American government debt, as measured by credit-default swaps, has rocketed over the past few months to a record high (see chart 2).

To start with, the Fed would treat defaulted securities much as it treats normal securities, accepting them as collateral for central-bank loans and potentially even buying them outright. In effect, the Fed would replace impaired debt with good debt, working on the assumption that the government would make payment on the defaulted securities, just with some delay. Although Jerome Powell, chairman of the Fed, described such steps as "loathsome" in 2013, he also said that he would accept them "under certain circumstances". The Fed is wary of both inserting itself at the centre of a political dispute and taking actions that seem to directly backstop the federal deficit—in the end, though, its desire to prevent financial chaos would almost certainly override these concerns.

The Fed's response would create a paradox. To the extent that its actions succeed in stabilising markets, they would reduce the need for politicians to compromise. Moreover, running a financial system based, in part, on defaulted securities would pose challenges. Fedwire, the settlement system for Treasuries, is programmed to make bills disappear once they pass their maturity date. The Treasury has said that it will intervene to extend the operational maturities of defaulted bills to ensure they remain transferable. Yet it is easy to imagine this kind of jerry-rigged system eventually breaking down. At a minimum, investors would demand higher interest to compensate for the risk, leading to a tightening of credit conditions throughout global markets.

However this process works out, America would already be in the throes of extreme fiscal austerity. The government would be unable to borrow more money, meaning it would have to cut spending by the gap between current tax revenues and expenditures—an overnight reduction of around 25%, according to analysts at the Brookings Institution, a think-tank. Moody's Analytics, a research outfit, estimates that in the immediate aftermath of a default, America's economy would shrink by nearly 1% and its unemployment rate would rise from 3.4% to 5%, putting about 1.5m people out of work.

Heading for the ceiling
United States, CDS* spreads, percentage points



Source: IHS Markit *Credit-default swaps

In the short-term scenario, Congress responds by raising the debt ceiling, allowing markets to recover. A default that lasts for a few days would be a black eye for America's reputation and probably induce a recession. Yet with deft management, it would not be the stuff of nightmares.

A longer default would be more dangerous. Mark Zandi of Moody's calls it a potential "TARP moment", referring to the autumn of 2008 when Congress initially failed to pass the Troubled Asset Relief Programme to bail out the banks, prompting global markets to crater. Continued failure to lift the debt ceiling, even after a default occurs, could have a similar impact.

The Council of Economic Advisers, an agency in the White House, estimates that in the first few months of a breach, the stockmarket would slump by 45%. Moody's reckons it would fall by about 20%, and that unemployment would shoot up by five percentage points, which would mean somewhere in the region of 8m Americans losing their jobs. The government, constrained by the debt ceiling, would be unable to respond to the downturn with fiscal stimulus, making for a deeper recession. The political dynamics are difficult to anticipate—but they would not be pleasant.

An avalanche of credit downgrades would add to these troubles. In 2011, during a previous debt-ceiling standoff, Standard & Poor's, a rating agency, downgraded America to a notch below its top AAA rating. After a default, rating agencies would be under immense pressure to do likewise. This could lead to a nasty chain reaction. Institutions backstopped by the American government, including Fannie Mae, a crucial source of mortgage finance, would also be downgraded, translating into higher mortgage rates and undercutting the all-important property sector. Yields on corporate bonds would spike as investors scrambled for cash. Banks would pull back their lending. Panic would spread.

There would be bizarre, unpredictable twists. Normally, the currencies of defaulting countries suffer. In the case of an American breach, investors might flock at first to the dollar, viewing it as a haven in crisis, as is normally the case. Within America, people might turn to deposits at too-big-to-fail banks, believing the Fed would stand behind them whatever happened. But any signs of resilience would carry a huge caveat: America would have violated the trust that the world has long placed in it. Questions about alternatives to the dollar and to the American financial system would gain urgency. Faith, once destroyed, cannot easily be restored. ■

Financial diplomacy

Xi v Putin

China and Russia compete to woo Central Asia's former Soviet republics

Central Asia's top brass is on tour. On May 9th presidents of the region's former Soviet republics were in Moscow, having been roped in as spectators for Vladimir Putin's annual military parade. Ten days later, as G7 leaders gathered in Japan, it was Xi Jinping's turn to play host, in Xi'an. At the first in-person meeting of a new group that China has dubbed the C+C5, he wooed Central's Asia's five leaders with a bonanza of investments, trade deals and knowledge transfers, to the tune of $3.8bn.

Central Asia is home to untapped natural gas and oil reserves, supplies of copper and uranium, and 10,300km of land borders with China and Russia. Outreach to the region has occupied Beijing and Moscow since the fall of the Soviet Union. But owing to uncertainty in Afghanistan and war in Ukraine, Chinese officials have taken a particular interest of late. Security was top of the agenda in Xi'an, upsetting a long-term compromise in which the region's armed forces move in lockstep with Moscow while Beijing pulls the region's purse-strings by bankrolling colossal projects.

The prizes offered by Mr Xi add to a push already under way to strengthen China's economic ties with Central Asia. Beijing is involved in more than 90 industrial projects across the region. Turkmen gas alone accounts for more than 70% of the country's annual gas imports. In 2022 China was Central Asia's largest trading partner, as the value of imports and exports between the two parties rose to $70bn—up more than 40% from the year before, according to official Chinese figures. By contrast, trade between Russia and Central Asia amounted to less than $40bn.

Mr Putin has stepped up his overtures, partly to counter Mr Xi. Russia has promised a slew of infrastructure investments. Competition is particularly fierce to build transport for the region's natural resources, many of which are trapped underground. In Xi'an Mr Xi offered to construct a pipeline, the fourth of its kind, to ferry gas eastward from Kazakhstan, Turkmenistan and Uzbekistan. Russia wants as much fuel as possible flowing through its borders in the Caspian and Central pipeline systems, which it has the power to turn on and off. In the words of an academic in Moscow, "there is a silent stand-off."

Mr Putin's diplomacy also has other motivations. Necessity has drawn Russia closer to its southern neighbours. War in Ukraine has left Mr Putin desperate to hold on to remaining allies, even though politicians in Central Asia have avoided openly supporting his invasion. Moscow is newly reliant on Central Asia to circumvent sanctions. Central bankers in Kazakhstan and Uzbekistan help settle payments, using gold and roubles, for transactions that before the war would have been made using SWIFT, a Western system. Logistics bosses and customs officials receive Russian exports before passing them on to Europe. Such intermediated trade counted for 4-6% of Kyrgyzstan's GDP last year.

The result is that Central Asia's economies are booming. Currencies in Kazakhstan, Tajikistan and Uzbekistan have risen against the dollar since the war began, bucking an emerging-market trend. The European Bank for Reconstruction and Development, a multilateral outfit, predicts that industries thriving on transporting Russian exports will contribute to GDP growth of 5.2% in the region this year, comfortably outstripping expectations. Capital, firms and people fleeing Russia, many of whom are highly educated, may well produce an even healthier 2024.

Frenetic business has sent pay soaring, too. In November, annual real wage growth reached 10% in Uzbekistan and 7% in Kazakhstan, meaning the region's workers have seen more of a lift than those in any G7 country. Newly flush households will spend more on food and energy during Central Asia's freezing winters. Strong domestic demand has left the region's governments struggling to keep up. Kazakhstan and Uzbekistan both paused gas exports in January, with a promise to bring them to a complete end by 2025. Whoever wins the charm offensive to build Central Asia's new pipelines may find there is no fuel available to fill them. ■


A relationship blooms in Xi'an

Chinese investment

Quite the coup

SHANGHAI

Clunky state-owned firms see their valuations soar, by official command

Remember the name: China Science Publishing & Media (CSPM) might be the hottest state-owned textbook stock, ever. Shares in the company, which publishes titles such as "Gaseous Detonation Physics and its Universal Framework Theory", are up 230% since the start of the year. It is not the content, riveting though it is, that has lifted CSPM's market capitalisation to nearly 30bn yuan ($4.3bn). Across the board, China's state-owned companies have enjoyed a renaissance—at the request of regulators. Stop focusing on profits, authorities have insisted. Instead, think about firms' social contributions and their broader impact on the economy. All told, the "reconsideration" of China's clunkiest firms has been worth 3trn yuan in the first five months of the year.

The success of the concept—called the "valuation system with Chinese characteristics"—is quite the coup for the country's state capitalists. It suggests an ability to guide investment flows. First mentioned in November by Yi Huiman, head of the China Securities Regulatory Commission, the system's principles continue to evolve. At their core is the idea that standard valuation methods are poor at assessing state-owned companies because such firms adhere to central-government policies which seek to improve overall economic prosperity, not simply a firm's bottom line.

China's state-owned enterprises (SOEs) have a reputation for poor performance and stingy dividends. Their market valuations have reflected this. Part of the problem, say proponents of the new system, is that companies have communicated poorly with investors. Some have even asked analysts not to cover them. Now the firms should help investors understand their "intrinsic values", Mr Yi has said. No method for doing this has been divulged, but investors speculate that these values include local employment and the hesitancy at many SOEs to lay off unproductive staff.

This sounds strikingly similar to what investors grudgingly call "national service", or sacrificing profits to boost economic growth. China's largest banks are often asked to do this by lowering interest rates on loans to risky borrowers—defying all commercial logic—in the hopes of spurring growth. Kweichow Moutai, a state-owned liquor-maker and one of China's most valuable listed firms, frequently spends on public works and has even start- ▸▸

ed bailing out local governments in its province. By classic valuation models, this is all detrimental to shareholder value.

The biggest beneficiary of the new system may be pensioners. China faces a gaping shortfall in its ability to support the elderly. Poor demographics and an early retirement age are exacerbating the problem. Officials are transferring trillions of yuan in state-owned capital to the national pension fund as part of a reform process. A boost in the valuation of the firms could eventually help the state meet its pension obligations. The new valuation system, says Meng Lei of UBS, a bank, is an attempt to help investors understand the broader implications of this transfer of state-owned capital to pensioners.

Is there a more traditional case for investment in companies such as CSPM? After a surge of excitement this year, state firms' share prices are falling again. A new index tracking them is down by 11% since its peak on May 8th. The 291 state-owned shares that are included in the China coverage of MSCI, an index operator, trade at around six times forward earnings, or close to all-time lows, according to Goldman Sachs, a bank. This is about half the ratio for non-state companies.

Even before the recent fall, SOEs were trading at a hefty discount. Officials now hope to match their fine words with actions. The regulator that oversees state assets recently switched its main gauge for evaluating company performance from net profits to return on equity. Analysts at CICC, a Chinese investment bank, reckon this might help lift capital returns and operating results. In which case, the interests of state capitalists and private investors would be better aligned than at present. ■

Buttonwood i > g

The American credit cycle is at a dangerous point

The celebrated tome "Capital in the Twenty-First Century", by Thomas Piketty, a French economist, runs to 204,000 words—longer even than Homer's "Odyssey". But the book's central argument can be distilled to a single, three-character expression: r > g. As long as "r", the real rate of return to capital, exceeds "g", the real rate of economic growth—as Mr Piketty calculated it did over the course of the 20th century—then inequality will supposedly widen.

The simplicity of the message won Mr Piketty widespread acclaim. It also spawned a resurgence in the popularity of economic expressions. An influential one, i > g, is a variation on the Piketty rule. It applies when nominal interest rates (or risk-free returns) exceed nominal growth. The troubling conclusion from this expression applies to debt. In an i > g world, growth in the revenues, wages or tax receipts that a debtor earns will be slower than the interest accumulating on their borrowing, meaning debt levels have the potential to explode.

An i > g world is unfamiliar to America and most of the West. Since the end of 2009 nominal growth has been higher than nominal rates (aside from the first half of 2020, when the covid-19 pandemic crashed the economy). Now America is about to cross the threshold. In the first quarter of 2023, despite annualised real economic growth of only 1.1%, troublesomely high inflation meant that nominal GDP rose at an annualised rate of 5.1%, roughly in line with today's federal funds rate. A panel of economists surveyed by Bloomberg, a data firm, anticipate that in the second quarter of the year growth will slip to just 0.4% and inflation to 3.3%. Nominal growth is forecast to be just 3.7%—well below nominal rates of around 5.2%.

"This is when the rubber really meets the road for the economic cycle," notes Carl Riccadonna of BNP Paribas, a bank. "This is the point at which, if you're a business, your revenues are now growing more slowly than your cost of financing." Wage growth will lag debt growth. Government debts will grow faster than tax receipts. A single quarter of this might be bearable. Unfortunately, economists expect the situation to last a year or more.

The precise impact depends on the extent to which debt reprices as interest rates rise. The vast majority of American homeowners have 30-year fixed-rate mortgages. This generous financing will protect them against a pincer-like combo of slowing wage growth and rising interest expenses. Nevertheless, consumers carrying other kinds of debt—including revolving credit-card balances and private student loans—will feel the pinch.

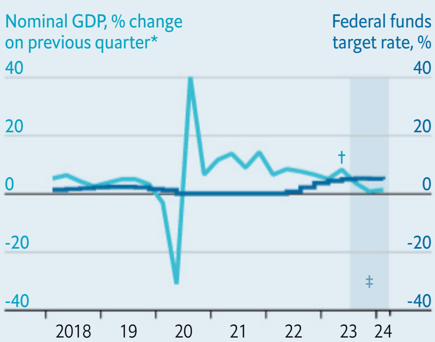
Many companies hold a mix of fixed- and floating-rate debt, meaning they will also be somewhat insulated. But the maturities of their debts tend to be much shorter than those of mortgages. A large portion of corporate fixed-rate debt is due to roll over in 2024. Companies that are preparing to refinance are getting nervous. Raphael Bejarano of Jefferies, an investment bank, points out that many corporate treasurers have been spooked by just how difficult it has been to issue debt over the past year. "Many of them are looking at their big maturities in 2024 and trying to roll some of that debt a little earlier, even at higher rates," he says. What they really fear is being unable to roll their debt over at all.

The most-exposed companies include many that have been recently snapped up by private-equity barons. Private-credit loans taken on by their firms' portfolio companies tend to have floating rates. During the last major credit cycle, in 2008, many private-equity firms were able to hang on to their overleveraged acquisitions by negotiating with lenders, which were mostly banks. This time around they will be going toe-to-toe with private-credit lenders, many of which also employ hefty private-equity teams and will be more than happy to take on overleveraged firms. In a sign of what may be to come, on May 16th KKR, a giant private-assets firm, allowed Envision Healthcare, a portfolio company in which it invested $3.5bn at a $10bn valuation in 2018, to fall into bankruptcy and be seized by its lenders.

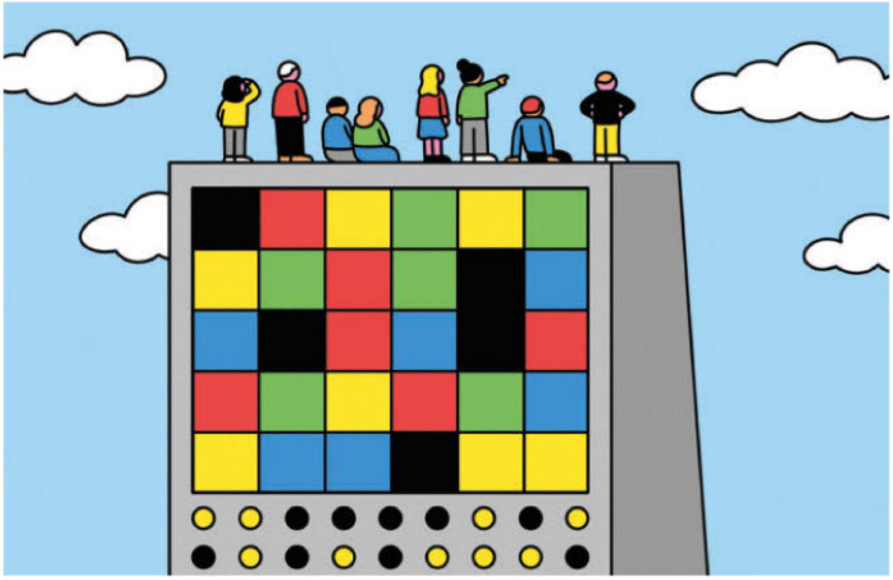
When surveying this scene, it is reassuring to note that interest rates have been high for a while, the American economy has fared pretty well and even bank failures seem to have represented a flesh wound rather than a fatal one. But all of this has happened in a different context. It is far easier to swallow a high cost of capital when it is matched by high returns on said capital. And that will not be the case for much longer.

Rubber, meet road

United States



Sources: BEA; Bloomberg *At annual rate †Estimate ‡Forecast



An economic thought experiment

Love and conflict

What would humans do in a world of ultra-powerful artificial intelligence?

In "WALL-E", a film released in 2008, humans live in what could be described as a world of fully automated luxury communism. Artificially intelligent robots, which take wonderfully diverse forms, are responsible for all productive labour. People get fat, hover in armchairs and watch television. The "Culture" series by Iain M. Banks, a Scottish novelist, goes further, considering a world in which AI has grown sufficiently powerful as to be superintelligent—operating far beyond anything now foreseeable. The books are favourites of Jeff Bezos and Elon Musk, the bosses of Amazon and Tesla, respectively. In the world spun by Banks, scarcity is a thing of the past and AI "minds" direct most production. Humans turn to art, explore the cultures of the vast universe and indulge in straightforwardly hedonistic pleasures.

Such stories may seem far-fetched. But rapid progress in generative AI—the sort that underpins OpenAI's popular chatbot, ChatGPT—has caused many to take them more seriously. On May 22nd OpenAI's founders published a blog post saying that "it's conceivable that within the next ten years, AI systems will exceed expert skill level in most domains, and carry out as much productive activity as one of today's largest corporations." Last summer forecasters on Metaculus, an online prediction platform that is a favourite of many techies, thought it would take until the early 2040s to produce an AI capable of tricking humans into thinking that it was human after a two-hour chat, had good enough robotic capabilities to assemble a model car and could pass various other challenging cognitive tests. After a year of astonishing AI breakthroughs, Metaculus forecasters now think that this will happen by the early 2030s. There is no shortage of money for research, either. Five new generative-AI unicorns (startups valued at $1bn or more) have already been minted this year.

The road to a general AI—one better than the very best of humanity at everything—could take longer than expected. Nevertheless, the rising possibility of ultra-powerful AI raises the question of what would be left for humans when it arrives. Would they become couch potatoes as in "Wall-E"? Here is a thought experiment, guided by the principles of economics, to provide something of an answer.

AI is your oyster

Inevitably, such a thought experiment involves some fairly heroic assumptions. For a start, we suppose that AI will be benevolent, controllable and distinguishable from humans. We also suppose that human culture will not be radically altered by technological progress to the point that people begin to love or even worship AIs. Instead, we imagine AI as a tool: a virtual, super-smart, dirt-cheap bot. We assume that constraints on the widespread use of AI, such as energy limits, will be resolved. None of this is guaranteed, but it helps make an exercise like this possible.

In 2019 Philippe Aghion, Ben Jones and Chad Jones, three economists, modelled the impact of AI. They found that explosive economic growth was plausible if AI could be used to automate all production, including the process of research itself—and thus self-improve. A nearly unlimited number of AIs could work together on any given problem, opening up vast scientific possibilities. Yet their modelling carried an important caveat. If AI automated most but not all production, or most but not all of the research process, growth would not take off. As the economists put it: "Economic growth may be constrained not by what we do well but rather by what is essential and yet hard to improve."

An idea put forward by William Baumol, a late economist, offers an explanation for this. In a paper published in 1965, he and William Bowen, a colleague, examined wages in the performing arts. They noted that the "output per man-hour of the violinist playing a Schubert quartet in a standard concert hall is relatively fixed". Even as technological progress made other industries more productive, the performing arts remained unaffected. Because humans were still willing to spend on the arts even as prices rose—demand was "inelastic"—the arts took up more of GDP and therefore weighed on overall growth.

Baumol's example points to a broader principle. If the domains that AI is able to fully automate are only imperfect substitutes for those which it cannot, and the demand for non-automatable industries is hard to budge, then the unproductive sectors will grow as a share of GDP, reducing overall growth. Messrs Aghion, Jones and Jones note that this is in fact what has happened across much of the past century. Technology has automated swathes of agriculture and manufacturing, driving down the relative price of their outputs. As a result, people have spent a greater share of their incomes on industries such as education, health care and recreation, which have not seen the same productivity gains.

Will Baumol's story matter in a world in which AI is more capable than the most talented humans? If the AI is not embodied—maybe because progress in robotics lags that in computing—then the answer is surely yes. Much of the economy, including construction and manufacturing, is decidedly physical. There are countless forms of employment, including many in health care, that require a combination of braininess and an ability to traverse the physical world. These jobs would only increase in importance in a scenario where AI began to dominate cognitive labour. Humans would work in the physical world, perhaps under the guidance of AI "chief executives" or "professors".

▸▸

But what if ultra-powerful AI develops super-humanoid robots, too? Material needs would almost certainly be met by machine hands. One might then expect humanity to give up on toil, much like in "Wall-E". Indeed, in 1930 John Maynard Keynes, another economist, penned an essay entitled "Economic Possibilities for our Grandchildren", in which he speculated that a century in the future people would work for less than 15 hours a week. The growth generated by technology would solve the "economic problem", he predicted, and allow people to turn their attention to activities that are intrinsically pleasurable. Admittedly, Keynes's 15-hour work week has not arrived—but higher levels of wealth, which may increase the appeal of leisure, have cut working hours much as he expected. The average number of hours worked a week in the rich world has fallen from around 60 in the late 20th century to under 40 today.

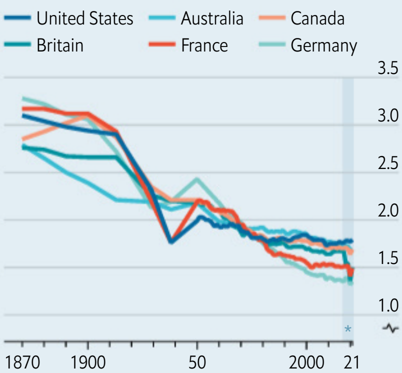
There are, nevertheless, some wants that perhaps only humans can satisfy even in a world of supercharged, embodied AI. It is also worth noting that what is intrinsically pleasurable may include work. Consider three areas where humans may still have a role: work that is blurred with play, play itself and work where humans retain some kind of an advantage.

Fun and games

Start with the blurring boundary between work and play. Although working hours have fallen over the past century, most of the drop was before the 1980s. Increasingly, rich people labour for longer than poorer people. Keynes's essay hints at an explanation for this odd development. He divided human desires in two: "Those needs which are absolute in the sense that we feel them whatever the situation of our fellow human beings may be, and those which are relative in the sense that we feel them only if their satisfaction lifts us above, makes us feel superior to, our fellows."

Lazy, wealthy and wise

Average annual hours of labour per worker, '000

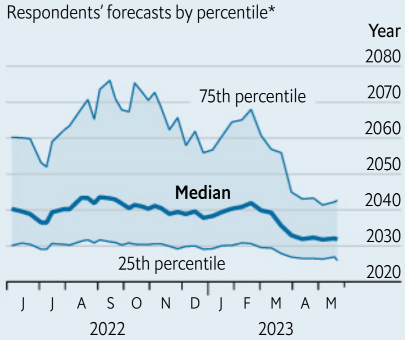


Sources: Our World in Data; OECD *New series

AI astrology

"When will the first general-AI system be devised, tested and announced?"

Respondents' forecasts by percentile*



Source: Metaculus *Recency-weighted aggregate, 640 total forecasters

Keynes perhaps underestimated the size of this second class of wants. A cynic might suggest that entire academic disciplines fall into it: existing with no apparent value to the world, with academics nevertheless competing furiously for status based on their braininess. Economists would say that, for many, work has become a "consumption good", offering far more utility than the income it generates.

Games offer another hint as to why people may not stop working altogether. Millions of people are employed in entertainment and sports, competing for clout in activities that some consider immaterial. Perhaps when AIs overtake humans, interest in watching such games will wane. But evidence from sports where humans are already second-rate suggests otherwise. Since IBM's DeepBlue defeated Garry Kasparov, the world grandmaster, in chess in 1997, interest in the game has only increased. Other games that have been "solved" by AI, including Go, an ancient Chinese board game, and competitive video games, have witnessed a similar pattern. Across the world the number of video-game players has nearly doubled in the past decade, reaching 3.2bn last year. Nowadays a growing class of gamers compete or stream for a living.

AI might supercharge this interest. As Banks speculated, humans might specialise in "the things that really [matter] in life, such as sport, games, romance, studying dead languages, barbarian societies and impossible problems, and climbing high mountains without the aid of a safety harness." Other humans would presumably want to watch them, too.

It seems unlikely that people will give up control of politics to robots. Once AIs surpass humans, people will presumably pay even closer attention to them. Some political tasks might be delegated: humans could, for instance, put their preferences into an AI model that produces proposals for how to balance them. Yet as a number of political philosophers, including John Locke in the 17th century and John Rawls in the 20th, have argued, participation in political procedures gives outcomes legitimacy in the eyes of fellow citizens. There would also be more cynical considerations at play. Humans like to have influence over one another. This would be true even in a world in which everyone's basic needs and wants are met by machines. Indeed, the wealthiest 1% of Americans participate politically at two to three times the rate of the general public on a range of measures from voting to time spent on politics.

Last, consider areas where humans have an advantage in providing a good or service—call it a "human premium". This premium would preserve demand for labour even in an age of superadvanced AI. One place where this might be true is in making private information public. So long as people are more willing to share their secrets with other people than machines, there will be a role for those who are trusted to reveal that information to the world selectively, ready for it then to be ingested by machines. Your correspondent would like to think that investigative journalists will still have jobs.

The human premium might appear elsewhere, too. People value history, myths and meaning. Non-fungible tokens, for which provenance can be verified on a blockchain, are typically valued at many multiples more than images with identical pixels but a different history. In areas such as caregiving and therapy, humans derive value from others spending their scarce time with them, which adds feeling to an interaction. Artificial diamonds, which have the same molecular structure as those from the ground, trade at an enormous discount—around 70% by one estimate. In the future, items with a "made by a human" tag might be especially desirable.

People problems

If this premium is big enough, it could even weigh on growth. Divide the sectors of the economy into those with a large human premium and those without. If humans do not substitute machine-produced goods and services for those made by fellow humans, the Baumol effect would only deepen. Measured economic growth could even hit zero. Indeed, if extremely powerful AI failed to supercharge growth, it would suggest that the economy had already moved beyond materiality towards play, politics and areas where what people value most of all is interacting with others.

Perhaps one day AIs will produce entirely new goods and services that will outcompete the desire to please and interact with other humans. The manner in which such a contest played out would reveal something profound: just how much of a "social animal" is a human? ■

Free exchange | Buzzkill

What a shortage of Adderall means for economic growth



Towards the end of last year America began running short of medicines used to treat attention-deficit hyperactivity disorder (ADHD), including Adderall (an amphetamine) and Ritalin (a central-nervous-system stimulant). Nine in ten pharmacies reported shortages of the medication, which tens of millions of Americans use to help improve focus and concentration. Around the same time, something intriguing happened: American productivity, a measure of efficiency at work, dropped. In the first quarter of 2023, output per hour fell by 3%.

Coincidence? Probably. Lots of other things could have explained the productivity dip. Equally, though, many of America's most productive people rely on Adderall to get the job done. It often seems like half of Silicon Valley, the most innovative place on Earth, is on the stuff. And surprising things can cause GDP to rise and fall, including holidays, strikes and the weather. What's more, the economic history is clear: without things that give people a buzz, the world would still be in the economic dark ages.

Not all drug consumption helps people work better, of course. Don Draper from "Mad Men", a TV series about advertising executives in the 1960s, came across many of his finest ideas three Scotches deep. But contrary to popular belief Ernest Hemingway, one of America's greatest authors, never advised "write drunk, edit sober", preferring to write liquor-free. In a book published in 1983 David Ogilvy, perhaps the most famous real-life mad man, warned of the dangers of drunks in the office. Use of cocaine, common on Wall Street and in Hollywood, can give people a short-term boost. It also causes grave long-term problems.

Indeed, economists normally think of mood-altering substances as a drag on prosperity. One estimate in 2007 put the cost of drug abuse in America at $193bn, or around 1.3% of GDP. More recently economists have looked at "deaths of despair", which many link to abuse of opioids. In 2021 more than 80,000 Americans died from opioid overdoses.

But stimulants can play a positive role, too. Consider two of them: sugar and coffee. The first allowed people to work harder; the second allowed them to work smarter.

Until the start of the 18th century calories were a significant constraint on Western economic growth. In 1700 total food supply per person in Britain was equivalent to around 2,000 calories a day—enough for the average man to survive, but not to do a great deal more. Workers were therefore inefficient. Many of the poor, who survived on even more meagre diets, barely had the energy to move, let alone do anything useful.

This changed when sugar imports from Britain's colonies increased. Annual sugar consumption per person rose from around 5lbs a year in 1700 to 20lbs by 1800—several times higher than in continental Europe. After 1800 imports then soared as Britons developed a taste for sweet tea and cakes. The change from a fibre-heavy to a sugar-heavy diet, noted Robert Fogel, a Nobel prize-winning economist, "raised the proportion of ingested energy that [could] be metabolised".

Some observed that a growing share of Englishmen were getting fat. But the imports also gave Britain's economy a sugar high. In France in the late 18th century about 10% of people could not work for lack of nourishment. In Britain, by contrast, only the bottom 3% were incapable. In the 18th century British GDP growth was seven times as fast as France's. Fogel reckoned that "bringing the ultra-poor into the labour force [and] raising the energy available for work by those in the labour force" explains about one-third of Britain's economic growth in the 19th and 20th centuries.

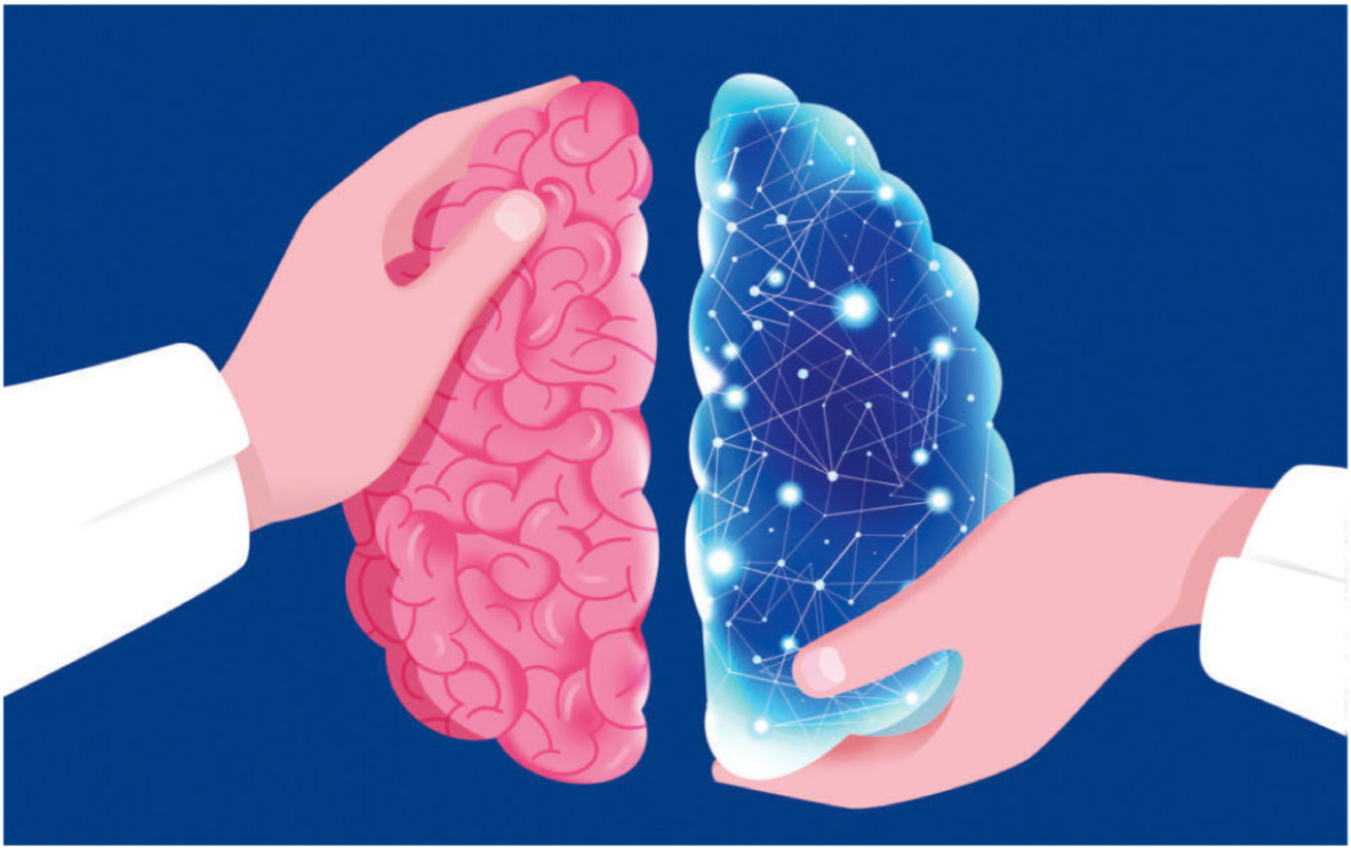
Coffee, meanwhile, pushed the middle classes to do bigger and better things. Joel Mokyr of Northwestern University has stressed the importance of a "culture of growth", the title of a book he published in 2016, in explaining Europe's industrialisation. During this period science became less academic, and more focused on solving real-world problems. Over time it became the handmaiden of inventions, such as the internal-combustion engine, which massively lifted living standards. Coffee houses, which some at the time called "penny universities", played a crucial role.

By the early 18th century central London was home to as many as 600 coffee shops. The Marine Coffee House in London was an early location for a set of lectures on mathematics, Mr Mokyr points out. The London Chapter Coffee House was the favourite of the fellows of the Royal Society, the intellectual godfathers of the scientific revolution, and was where people gathered to discuss how science could be applied. Caffeine lubricated the discussion in a way that alcohol—a depressant—never could. The chemical increases both selective attention (focusing on the relevant stimulus) and sustained attention (maintaining it).

This was not the only way in which coffee fuelled growth. In the 18th century Europe came to rely more heavily on clocks to organise the timing of economic activity, and less on the natural rhythms of the human body, as was common in agricultural societies. Factories cannot function unless everyone is there at the same time. Yet if people now had to get up at unnatural hours, they needed something to pep them up. "Caffeine became instrumental to the regimented time of the urban industrialised societies," according to Steven Topik of the University of California, Irvine.

Flying high

The prolonged shortage of ADHD medication has imposed real pain on those who need it to function. Fortunately, though, the shortage does now appear to be easing. Some pharmacies are finally getting drugs back in stock and regulators have removed some medications from their official-shortages list. Silicon Valley types have been experimenting with other stimulants, such as nootropics, which are not in shortage. American productivity appears, once again, to be rising. Coincidence? ■



Neuroscience and AI

Brains in a box

Artificial brains are helping scientists study the real thing

The striking progress in artificial intelligence over the past decade is mostly down to advances in machine learning, whereby computers teach themselves complicated tasks by crunching large quantities of data, rather than having to be programmed directly by humans. This approach has driven rapid progress in computer vision, language translation and, most recently, the human-like conversational skills of chatbots such as GPT-4.

The learning is done by software models called "artificial neural networks" (ANNs). The standard description of an ANN is that it is loosely inspired by the networks of neurons in the human brain. It is *de rigueur* to follow that description with an immediate disclaimer, in which both computer scientists and neuroscientists jump in nervously to point out that the analogy is very rough, that ANNs are mere cartoons of real brains (if even that) and that they fail to capture the complexity of the biological organ.

All that is true. But some neuroscientists are beginning to find that even cartoons can be useful. The inner workings of the best ANNs—those that are closest to matching human performance on tasks like identifying objects, or responding to text prompts—appear to have some remarkable similarities to the workings of brains. Having taken inspiration from biology, in other words, programmers are now returning the favour, with their creations telling neuroscientists useful things about biological brains.

The seminal study comparing brains and ANNs was published in *Proceedings of the National Academy of Sciences* in 2014.

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77 Saving Venice from the waves

Daniel Yamins, a neuroscientist at the Massachusetts Institute of Technology (MIT), and his colleagues trained an ANN to pick out objects from photographs—a cat, for instance. The researchers compared what was going on inside the electronic network to what was happening inside the brains of macaque monkeys that had been set the same task, and whose brains had been wired with electrodes.

ANNs are built up from large numbers of artificial neurons that, just like their natural counterparts, can be on or off; firing or silent. These neurons are linked together in layered, interconnected networks. Activity in lower layers can affect how neurons in the higher layers fire.

Inside the black box

Dr Yamins's test involves image recognition, which in natural brains proceeds hierarchically. One layer of neurons will detect simple features such as patches of light or dark. A higher layer organises those into edges; a still higher layer combines the edges into shapes. That process of increasing abstraction continues until, eventually, the brain decides whether it is looking at a cat, a dog or a banana.

Images that share some characteristics provoke similar clusters of neurons to fire. If a certain set of neurons fires when looking at a cat, another, partially overlapping set is likely to fire in response to a picture

of a dog. The neurons that respond to both images are thought to be representing features—fur, four legs and a tail, say—that are present in both pictures.

When Dr Yamins and his colleagues compared what was going on inside the macaque brains to the silicon ones, they found arresting parallels between how the monkeys represented images and how the computers did. "The paper was a game-changer," says Nancy Kanwisher, another professor at MIT who has spent much of her career studying the human visual system, and who now uses ANNS in some of her research. "The [artificial] network was not in any way designed to fit the brain. It was just designed to solve the problem and yet we see this incredible fit."

Since then, whenever an ANN model has close to human performance on a task, neuroscientists have been eager to compare it with natural brains. They have found similarities between ANNS trained to recognise speech and process language, such as those used in transcription software, and the human auditory cortex.

The pattern holds for written language too. One paper published in 2021 compared human brain activity against many different commercial language models. It found that the most sophisticated ANN—at the time OpenAI's GPT-2—was the closest match for human brain activity. The better models get at solving certain tasks, the more similar they seem to get to the human brain doing the same.

Another indication that the analogy between artificial neural networks and natural ones is useful is that the study of the former can make testable predictions about the latter. A paper published in 2022, by researchers at Columbia University and MIT, found that an ANN trained on image-recognition tasks produced a group of artificial neurons devoted to classifying foodstuffs specifically. When the paper was published there was, as far as anyone knew, no analogous area of the human visual system. But the following year researchers from the same laboratory announced that they had discovered a region of the human brain that does indeed contain neurons that fire more often when a person is shown pictures of food.

Perhaps the strongest evidence for the claim that artificial brains can reveal useful things about biological ones is the apparent ability for software and wetware to interact with each other directly. Nicholas Sexton and Bradley Love, a pair of neuroscientists of University College London, started out rather sceptical about the supposed resemblance between natural and artificial neural networks. Simply seeing similar patterns of activity, they argued, was not enough to claim that ANNS and brains were solving problems in the same way. To prove that the correspondence was meaningful, they suggested investigating whether it was possible to feed brain activity into an ANN.

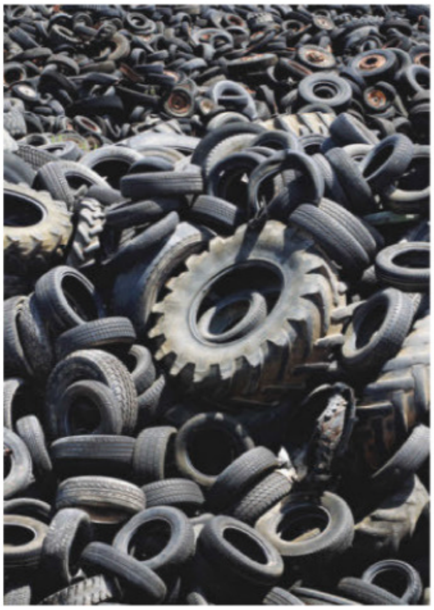
In 2022 they published a paper in *Science Advances* that did just that. The researchers fed an ANN trained to recognise images data recorded by an MRI scanner examining human brains. The idea was to try to let the ANN "see" through human eyes. Sure enough, the hotwired ANN was able to interpret data from any of the hierarchical layers of the biological visual system—though it did best with data from the higher levels, which had already been partly processed by the brain in question. If the computer model was shown brain activity from a human that was looking at a picture of a greyhound, for example, then it would say that it was looking at a greyhound—as opposed to some other object—almost 70% of the time.

The fact that a silicon brain can happily accept half-chewed data from a biological one suggests that, on some level, the two systems are performing the same sort of cognitive task. That insight might prove useful for brain-computer interfaces, which are devices that aim to allow biological brains to talk directly to machines. An ANN linked up to a camera, for instance, might be used to feed partly processed visual information into the brain. That might help treat some forms of blindness caused by damage to the brain's visual system. Several different research groups in Europe and America are already testing that idea in experiments on macaques.

Models of the mind

Even those most enthusiastic about ANNS do not argue they are perfect analogues of the human brain. Some make mistakes that humans never would—give an ANN a picture of a cat but with the skin of an elephant, for example, and the model is more likely to identify it as an elephant. But no scientific model is ever perfect. The question is whether it is useful. One of neuroscience's problems is that experiments are difficult to run, for both ethical and practical reasons. Poking and prodding ANNS could offer a useful alternative.

In any case, comparing biology and silicon continues to produce intriguing results. In a paper published in May researchers from the University of Texas at Austin used a neural network to monitor brain signals from participants in an MRI scanner. Using just data from the MRI, the ANN could produce a rough summary of a story that the test subject was listening to, a description of a film they were watching, or the gist of a sentence they were imagining. "When I was in graduate school I would dream about something like this existing," says Dr Love. "I thought it would be hundreds of years until we had something that works this well." ■



Recycling tyres

Fuel from your wheels

Turning old tyres into new, low-emission fuel

Getting rid of old tyres has long been a problem. Every year more than a billion reach the end of the road. Until recently, most were thrown into landfills or piled up in storage yards, which occasionally caught fire. Tougher environmental laws mean many countries now insist tyres are recycled. And they are, sort of. Some of the methods might be better than dumping them, but they are not especially green.

Energy recovery is one common method. This involves burning tyres in an incinerator to generate electricity, or as a supplementary fuel to provide heat for cement kilns and other industrial processes. But that produces planet-warming pollution. Tyres can be used whole or shredded in construction projects, such as building embankments or repairing roads. There are, however, concerns about chemicals from the tyres leaching out and contaminating the ground.

Some firms, therefore, have begun exploring an alternative, pleasingly symmetrical idea. Since tyres are mostly made from hydrocarbons, it should be possible in principle to turn old tyres into low-carbon fuel which can be used to run the vehicles they came from.

One of the most ambitious firms pursuing the idea is Wastefront, which is based in Oslo, in Norway. Later this year the company will start building a giant tyre-recycling plant in Sunderland in north-east

England. In a couple of years, when the plant is fully operational, it will be able to turn 8m old tyres into new products, including some 25,000 tonnes of a gooey black liquid called tyre derived oil (TDO).

The process works by deconstructing a tyre into its three main components. One is steel, which is used to brace the structure of a tyre and which can be readily recycled. The second is carbon black, a powdery, soot-like form of carbon used to improve the durability of the tyre. The third is rubber. Some of that will be natural rubber obtained from the sap of rubber trees. Some will be the synthetic sort, which is made in factories from crude oil.

In order to do the deconstructing, the tyres are first shredded and the steel bracing removed. The remaining material then goes through a process called pyrolysis. This involves exposing a material to high temperatures in the absence of air. That causes the rubber to decompose into a mix of hydrocarbon gases, which are drawn off. What is left behind is pure carbon black.

Once the drawn-off gas has cooled down, a proportion of it liquefies into TDO. The remaining gases, which include methane, are funnelled back around to be burned, fuelling the reactor. This, says Vianney Valès, Wastefront's boss, creates a closed-loop system that prevents emissions. The overall output of the process by weight is 40% TDO, 30% carbon black, 20% steel and 10% gas.

The carbon black can be re-used to make new tyres. That is of interest to tyremakers because it helps efforts to become carbon neutral. Producing new carbon black requires the partial burning of heavy oil residues or coal, which produces plenty of greenhouse-gas emissions.

The recovered TDO is similar to crude oil fresh from the ground, and is well-suited for making diesel. To do that, Wastefront is working with Vitol, a Swiss company that is the world's largest independent oil trader, and which operates a number of refineries around the world.

While not completely carbon-neutral, diesel made from TDO does produce an 80-90% reduction in emissions of carbon dioxide, the main greenhouse gas, compared with the conventional fuel. The future market for cleaner fuels is likely to remain substantial, even though electric vehicles are steadily replacing those with combustion engines. Fossil-fuelled vehicles will remain on the road for decades to come, particularly large commercial vehicles like lorries, which are harder to electrify and which are big burners of diesel. The fuel will also be needed by trains and ships. So, anything that helps to clean up overall emissions during what will be a long transition to the electrification of transport is useful—especially if it also shrinks a mountainous waste problem. ■

Evolution

Helicopter beetles

Parenting can be bad for the young—at least from a genetic point of view

PARENTS OFTEN fret about whether they are doing their jobs properly. Take too hands-off an approach and the kids will grow up feral. Smother them with attention, though, and the risk is of raising offspring unable to function on their own.

Evolution, it seems, faces similar tradeoffs. In a paper published in *Proceedings of the Royal Society B* on May 24th, Rahia Mashoodh and Rebecca Kilner, a pair of biologists at the University of Cambridge, offer an explanation for a curious fact: once a species has evolved to care for its young, the trait is almost never lost again. They argue that parental pampering comes with a genetic price that makes returning to the *status quo ante* difficult.

The price in question is mutations—random changes in an organism's genome. Some are seriously harmful, and quickly weeded out by natural selection. But many are only mildly deleterious, and do not much hamper an individual's chances of reproducing as long as conditions are good. With that in mind, researchers have long speculated that doting parents provide exactly the sorts of pleasant environment that allow offspring with mildly damaging mutations to survive when they otherwise would not.

Testing the theory requires tracking species over many generations. That is tricky, for many species that provide parental care are irritatingly long-lived. Dr Mashoodh and Dr Kilner turned to the burying beetle, which combines parental care with a relatively short lifespan. The beetles breed in the corpses of small mammals and birds, turning them into carefully tended nests and regularly spraying them with disinfectant chemicals to keep them clear of bothersome pathogens. When their young hatch, the parents protect them from predators and feed them bits of the carcass.

The researchers set up two populations. In one, beetles were raised by doting parents. In the other, beetles hatched out of eggs near a dead mouse but had no parents to make life easier. This split was maintained for 20 generations.

Drs Mashoodh and Kilner then inbred the resulting descendants. Inbreeding amplifies damaging mutations, and often results in extinction. But the rate at which inbreeding drives a species off the evolutionary cliff varies with how many damaging mutations are present in the first place.

The population of beetles whose ancestors had been pampered by their parents died out in just two generations of inbreeding. By contrast, beetles that had a history of surviving alone endured for four. That strongly suggests that the hatchlings denied parental care over the course of many generations ended up with considerably healthier genomes than those that had been looked after by mum and dad.

Parental care, in other words, is a one-way evolutionary street because it generates a problem that only it can solve. That makes going backwards hard. But it is not all bad news. Although most mutations are harmful, the researchers point out that a few are helpful. They speculate that a species full of helicopter parents might expose its young to more of the evolutionary bad—but also more of the good. ■



Spoiling them rotten



Climate change

Water works

VENICE

Venetians are pondering raising their entire city to escape the rising tide

THE RELIEF in the City of Canals is palpable. For centuries, regular high tides—*acqua alta* to the locals—have flowed through Venice, submerging walkways, flooding buildings, and stopping boats from passing under its many bridges.

For most of the city, at least, that is no longer the case. In operation since last year, after nearly two decades under construction, a giant piece of hydraulic engineering called the Experimental Electromechanical Module—known by its Italian acronym MOSE—now protects Venice and its lagoon. In a city where waders were as easy to buy as postcards and ice cream, most people can now go about their business without consulting tide charts. Property prices are up, especially for flats and shops on the ground floor.

Or at least, they are for now. Although MOSE is up and running, there are questions about how long the barrier will last. The flood-defence scheme was designed to serve for a century. But Hermes Redi, the director-general of Consorzio Venezia Nuova (CVN), the Venetian engineering consortium that built it, fears that, thanks to a combination of climate change and the gradual sinking of the city itself, its useful lifespan might be just half as long.

MOSE is made up of 78 hinged steel floodgates that run for 1.6km along the sea floor beneath the three inlets to the Venetian lagoon. When a high tide begins, machines that consume enough electricity to power "a small town", as a technician puts it, compress air that is blasted into each floodgate. As seawater is forced out, the floodgates rise into nearly vertical positions. The resulting barrier holds back the Adriatic until the tide retreats.

That sinking feeling

For all its technological whizzyness, the system has downsides. Cost is one. Mr Redi reckons each raising of the barrier costs about €150,000 (other estimates are higher). Maintenance costs add up, too. Sand must be cleared from the machinery. Each floodgate is designed to be removed every five years for defouling. Last year, when MOSE was used 36 times, the operating cost was more than €70m ($76m).

The barrier also disrupts maritime traffic, causing protests from both fishermen and the big container ships that call at Marghera, a busy port in the lagoon. Antonio Revedin of the North Adriatic Sea Port Authority says a delay can cost an individual cargo ship €80,000 a day—though a system of locks, due to come online later this year, should help.

There are environmental issues, too. Most of Venice's sewage flows into its canals. As Luigi Tosi, a geologist with Italy's National Research Council (CNR), puts it, a lagoon that is sealed off too often would become "first a bathtub, then a sewer". All that means that MOSE is only used when tides exceed 110cm. That means that some low-lying parts of the city, including St Mark's square, still flood.

Rising sea levels will make those downsides more apparent as the barrier is raised more and more frequently. One paper, published in 2021, predicted a rise in water levels of between 32 and 110cm in the Venetian lagoon by 2100, depending on how sharply the world cuts its carbon emissions.

What is needed, then, is a plan to extend the system's life. Dr Tosi is among those who think that seawater could be the answer as well as the problem. They propose to pump seawater underground, and in doing so to raise the land. That may seem outlandish but, in principle, it is merely the reversal of something that has already happened. Between the 1940s and 1970s the extraction of groundwater for use by industry caused Venice to sink by about 15cm. Pietro Teatini, a hydraulic engineer at Padua University, points out that there is precedent from the oil-and-gas industry, which has shown that storing gas in underground reservoirs can lift the land above.

The area's geology is promising. Its sandy subsoils should be relatively expandable. Those sandy layers are capped with watertight clay which would prevent injected seawater seeping upwards to contaminate freshwater aquifers.

Giuseppe Gambolati, a semi-retired hydraulic engineer at Padua University, thinks it should be possible to achieve a rise of 25cm across the entire city within a decade. His proposal calls for drilling three test wells. If those reveal no show-stopping problems, then the full job would involve a dozen wells 600 to 800 metres deep around the city. Dr Gambolati reckons the city could be raised for something like 2% of MOSE's €5.5bn construction cost. Maintaining the uplift, by continual pumping of water, might cost 5% as much as the flood barrier's operating expenses.

For now seawater injection remains just an idea. But if something is not done, then the rising waters may eventually force more drastic changes. Dario Camuffo, who studies both the environment and Venice's cultural heritage at CNR, says one option would be simply to abandon the city's ground floors. Raised pavements could allow people to enter buildings on the storey above. Another, he says, is that prized structures might be taken apart for reassembly elsewhere. Mr Redi worries that Venice's lagoon may need to be permanently cordoned off from the sea with a dyke. For a city proud of its maritime heritage, that might be seen more as a humiliation than an adaptation. ■

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Art and artificial intelligence

The robotic school

Beneath the mimicry, generative AI models are developing their own artistic style

First prize in the creative category of this year's Sony World Photography Awards was presented in April to Boris Eldagsen, who impressed judges with his ethereal, vintage-style portrait of two women in black and white. Mr Eldagsen, however, turned down the prize and revealed that his image had been created not by a camera but by artificial intelligence (AI). The German artist said he had "applied as a cheeky monkey", to see if he could fool the panel.

"Generative" AI models make convincing mimics, whether they are producing vintage portraits or more modern images—like a purported photo of the pope in an improbable Balenciaga puffer jacket, which recently tricked half of Twitter. Yet their ability to produce original work is less clear. "AI art has so far been exceptionally trivial," a columnist in the *Art Newspaper* recently huffed. It is intrinsically derivative, based on the millions of training images that are consumed, digested and regurgitated to order. "Plagiarism is a feature of the AI process," declared the Writers Guild of America, one of many creative-workers' unions that sees generative AI models as mere copycats.

Perhaps so. Yet there are signs that AI models are developing an artistic style of their own—and not just in drawing hands with more than five digits, as was common in their early output. By identifying and accentuating the patterns they see in their training data, generative models are not so much mirrors of contemporary styles as they are magnifying lenses. Slowly, a robotic school of artwork is emerging.

Computers have been making art for some time. Five years ago Christie's auctioned its first work created by artificial intelligence, "Edmond de Belamy", a blurry approximation of an 18th-century oil painting. Despite being unfinished and faintly alien-looking, the novelty fetched $432,500. "It may not have been painted by a man in a powdered wig," Christie's said, "but it is exactly the kind of artwork we have been selling for 250 years."

Technology has since come far. Open platforms such as Midjourney and DALL-E generate images in seconds based on simple written prompts. No artistic skill is required, though there is a knack to getting good results. "The image I produce isn't my work. My work is the prompt," says Nick St Pierre, a designer in New York who got into AI last year when he saw it coming for his job. The image above, which he made using Midjourney, took hundreds of iterations, ending up with this prompt:

> 35mm, 1990s action film still, close-up of a bearded man browsing for bottles inside a liquor store. WATCH OUT BEHIND YOU!!! (background action occurs)…a white benz truck crashes through a store window, exploding into the background…broken glass flies everywhere, flaming debris sparkles light the neon night, 90s CGI, gritty realism

The ability to order any image in any style, from action movies of the 1990s to papal paparazzi shots, seems incompatible with the idea of a distinctive AI look. Yet certain traits seem to predominate. One is nostalgia. The ability of AI models to recreate the styles they have been fed makes them adept at simulating the look of old media, or sometimes recreating past events in modern guise. One recent viral series imagined modern-day selfies taken in pre-modern times, with Vikings or cave- ▸

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men grinning for the camera.

As in previous eras of art, the prevailing subject matter is determined by whoever commissions the work. Western galleries groan with pictures of rich white men and their property, not because they looked good in oil paint but because these were the themes dearest to the hearts of patrons. Midjourney's output is big on anime warrior princesses for the same reason.

AI models seem to favour particular techniques, too. Examining images produced by Midjourney earlier this year, Roland Meyer, a researcher at Ruhr University Bochum in Germany, noticed a common look. Many would "shine and sparkle, as if illuminated from within". They combined this distinctive lighting with a colour palette that contrasted warm earthy tones with blue or green metallic ones. Many also displayed what photographers call "high dynamic range", meaning a wide variation in light levels within the image, with pools of deep shadow and other areas brightly lit.

These traits are not coincidental. Mr Meyer attributes the distinctive "glow" to the way AI models handle lighting. Rather than using digital art techniques such as ray tracing, in which a computer calculates how light will fall on an object from a particular angle, AI imagines how things will look based on the images in its training data, which have been illuminated from many different angles. For this reason, even photo-realistic AI images seem to be lit in a way more akin to painting than to naturalistic photography, Mr Meyer says.

Painting by numbers

The favoured colour schemes, meanwhile, often pair teal or turquoise with orange or magenta. That reflects a taste popularised on Instagram and from there across the internet, which is likely to have been well-represented in training data. (High dynamic range has been made similarly ubiquitous online by modern smartphone cameras, which produce such effects by taking several images at different exposures and stitching them together.)

With updates to AI models come changes to their oeuvre. David Holz, the founder and boss of Midjourney, rejects the idea that there is a single AI style. The latest version of the program, released in March, has reined in some of the tendencies of the previous one, he says. "The look of our images has radically changed five times now over the past 12 months and will continue to do so for quite some time," Mr Holz insists. "People want diversity."

As the models evolve and improve, they will remain reliant on man-made training data. "No collection is ever neutral," says James Coupe, head of photography at the Royal College of Art in London, where he is setting up an AI lab. "Image archives are indexes of a society's changing ideological investments and political commitments." And whatever the training data, "we are going to end up with a style that is a kind of lowest common denominator of art." He compares AI-generated images to a project in the 1990s by a pair of Russian conceptual artists, Vitaly Komar and Alexander Melamid. They surveyed public tastes in 14 countries and produced artworks based on the results. Nearly everyone went for banal 19th-century-style landscapes.

By identifying and condensing prevailing styles in their training data, generative-AI models are playing a similar role. Mr Meyer thinks their ability to summarise visual styles or eras could make them powerful tools of analysis for art historians. Both their weakness and their strength is that, as he puts it, they are "cliché detectors". ■

Spy fiction

Sleeper agent

Tomás Nevinson. By Javier Marías. Translated by Margaret Jull Costa. *Knopf; 656 pages; $32.50. Hamish Hamilton; £22.00*

When Javier Marías died last September at the age of 70, he left a richly beguiling, stylistically bold and, above all, original body of work. Whether exploring academic life, marriage or the murky world of espionage, the Spanish author's novels, written over five decades, blend intellectual inquiry with playful and artful high jinks.

Marías's final book revisits characters and themes from his penultimate one, "Berta Isla" (published in 2017). He saw "Tomás Nevinson" as a "companion piece" to its predecessor—but it is a better novel. The eponymous hero comes fully alive as he navigates shadowy machinations and ethical quandaries.

Tomás Nevinson's days in the British Secret Service are over. Back in his home town of Madrid, the half-English, half-Spanish former spy is trying to rebuild his family life after years of "enforced exile". But when his old handler and manipulator, Bertram Tupra, tracks him down and tempts him with one last assignment, Tomás is roused from retirement, reactivated and once again obliged to "dovetail lies and false identities".

His mission requires him to go undercover in north-west Spain and find out which of three women is a terrorist with ETA, a Basque separatist group, who is now lying low after taking part in bombings in Barcelona and Zaragoza. Posing as a teacher of English, Tomás embarks on a charm offensive, befriending the women—a fellow schoolteacher, a restaurant owner and a trapped wife—and forging more intimate relations with one of them. He watches their movements and reactions, all the while looking for clues that might betray a hidden identity and a role in past crimes.

But then Tupra, impatient for results, changes the rules. If Tomás cannot unmask and dispatch the terrorist, then all three women will have to die. Can he find the culprit in time—and will he have the unscrupulous courage to carry out his "blood mission"?

Those who prefer their espionage thrillers lean and taut may be put off by this hulking tome. But like the stories in Marías's bravura trilogy, "Your Face Tomorrow", "Tomás Nevinson" is a different kind of spy novel. It unfolds in meandering yet mesmerising sentences. Some describe scenes, others contribute to free-flowing monologues or digressive meditations. The author's other trademark tropes, from literary allusions to historical references and philosophical debates, all feature.

Occasionally the narrative is weighed down by ponderous musings on topics such as hatred, justice and killing for the greater good. But it is never long before readers are again enthralled by Marías's high-stakes plot, his protagonist's tangled web of deceit and the sharp scrutiny of guilt, doubt, betrayal and memory. Now seamlessly translated by Margaret Jull Costa, this final work is a stimulating drama by a master of his craft.



Just when he thought he was out

Social psychology

The enemy of the good

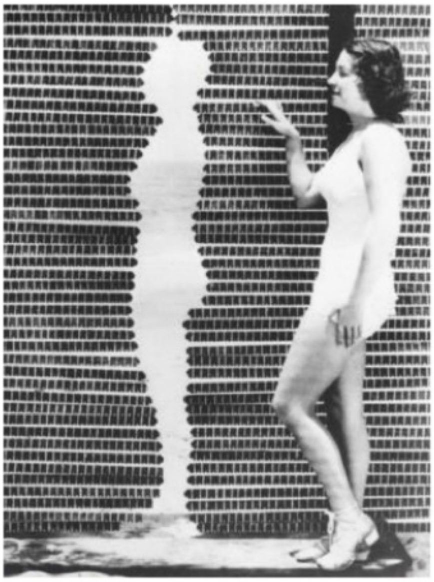
The Perfection Trap. By Thomas Curran. *Cornerstone Press; 304 pages; £22. To be published in America by Scribner in August; $28*

In Nathaniel Hawthorne's short story "The Birth-Mark", a chemist called Aylmer marries a young woman, Georgiana, whose sole imperfection is a red blemish on her left cheek. He considers it a "fatal flaw"; she pleads with him to use his skills to remove it. Stumbling on his journal, however, Georgiana is astonished to find it is a catalogue of scientific mishaps. Might his loathing of her birthmark stem from his professional disappointment? At length Aylmer concocts a potion that has the desired effect—and promptly kills her.

Hawthorne's 180-year-old tale illustrates the perils of perfectionism. It is Thomas Curran's starting-point for a study of what he calls a "hidden epidemic". He thinks the obsessive pursuit of ever higher standards, rather than propelling achievement, is mainly a scourge. A social psychologist at the London School of Economics, he describes himself as "a recovering perfectionist". Drawing on both academic research and his own experiences of "deficit thinking", he makes a vigorous case, albeit one occasionally marked by cliché (he sees his younger self as a "chin-stroking, cardigan-wearing intellectual").

Mr Curran distinguishes between three sorts of perfectionism. The first, which looks inward, is the relentless self-scolding of the workaholic or punctilious student. A second version, directed towards others, is commonly found in bosses who have unrealistic expectations of their staff and decry their supposed failings (he cites Steve Jobs as an example). The third and most troublesome kind is the form imputed to society: "an all-encompassing belief that everybody, at all times, expects us to be perfect". Its victims tend to feel lonely; often they harm themselves and harbour thoughts of suicide.

Having noted the ways in which this pathology inflames vulnerabilities and erodes resilience, Mr Curran suggests some causes. These include a lack of job security, neurotic supervision by helicopter parents and the gaudy blandishments of advertising, which fuel consumption and anxiety. "The very fabric of this economy", he claims, "is woven from our discontent." Inevitably he blames social media, which inundate users with images of finely



Nobody's perfect

sculpted bodies, flawless outfits, ambrosial holidays and exquisite weddings.

A less familiar culprit is Don Hamachek, an American psychologist, who in the 1970s coined the term "normal perfectionism", thereby legitimising morbid self-criticism, says Mr Curran. He even reproaches Barack Obama for enjoining young people to learn from their mistakes. Instead, he says, failures should be "allowed to simply wash through us as a joyous reminder of what it means to be a fallible human".

The author's greatest odium, though, is directed at meritocracy. In this he draws on the thinking of Michael Sandel, a philosopher at Harvard. Especially in "The Tyranny of Merit" (published in 2020), Professor Sandel has argued that using education as a giant sorting machine creates a toxic obsession with credentials, dividing society into winners and losers and depleting the common good. Like other critics of meritocracy, Mr Curran has a point—until you consider the alternatives.

Daily life, in his view, now resembles an endless tribunal. Young people suffer most from the constant scrutiny of scores and rankings. Decrying a fixation on economic growth, he applauds countries, such as Bhutan and New Zealand, where decision-makers take account of citizens' happiness. Mr Curran's preferred fix is a universal basic income, which he says would "extinguish the fire of perfectionism".

Whatever its economic merits, his argument errs in treating perfectionism as a purely cultural phenomenon. Might it not also be a disposition embedded in the psyche? Tellingly, his guidance—"Keep going. Do not yield"; "Keep practising that acceptance of fortune and fate"—is couched in the language of the perfectionist's round-the-clock report card. ■

The decline of great powers

Roman lessons

Why Empires Fall. By John Rapley and Peter Heather. *Yale University Press; 200 pages; $27. Allen Lane; £20*

Declinism is in fashion again. As relations between America and China worsen, studying the ends of earlier ages of hegemony becomes more popular. Books predicting the unstoppable rise of autocratic strongmen and the death of democracy proliferate. There is much talk of the "Thucydides trap": the inevitability of a clash between a rising power and an established one, as Athens challenged Sparta in the fifth century BC.

This provocative short book adapts this approach with a novel twist. It draws a comparison between the West in 1999, the zenith of its confidence, and Rome exactly 1,600 years earlier, in 399—just decades before the empire's collapse.

The most interesting part of the story concerns Rome. John Rapley, a political economist, and Peter Heather, a historian, dissent from the analysis familiar since Edward Gibbon of an empire in gradual decline almost from its inception under Augustus. Rome, they argue, was as strong as ever at the turn of the fifth century AD. An admittedly extensive and sometimes rickety empire was held together mainly by co-opting talented outsiders, devolving extensive power to strong commanders and doing deals with potential enemies. Yet within a decade Rome had pulled its legions out of Britain (the authors dub this withdrawal the first Brexit). Less than a century later, the last western emperor, Romulus Augustulus, was gone.

What went wrong? The book dwells on foreign forces that became ever harder to resist. At the empire's weakening periphery, local bigwigs began throwing in their lot with Goths, Ostrogoths, Visigoths, Huns, Vandals and the rest. The sister of one emperor even married a Visigoth leader (apparently voluntarily) and produced a son with serious imperial claims. As Gibbon laboured to explain 250 years ago, the eastern empire based in Constantinople continued for almost another millennium. But it, too, was weakening and steadily losing territory, initially through costly wars against Persia and later with the rise of Islam and the Ottomans.

Over the centuries western Europe recovered, first under Charlemagne and later even more spectacularly when it spread its power (and its own empires) across most ▸▸

of the known world. The question the authors pose is whether, despite its apparent dominance as recently as the turn of the 21st century, the West is now inexorably heading in the same direction as Rome in the fifth. They point to such issues as rising debt burdens, costly welfare states, depressed productivity growth, demographic decline and mass immigration. They see big challenges to the West from the growth of Asia, particularly China and India, and also from anti-Western powers such as Russia and the rise of Africa.

Yet the analogy with Rome's decline and fall is ultimately unconvincing. The rest of the world is certainly catching up with the West, both economically and demographically. China's economy may soon be bigger than America's. Europe accounted for a quarter of the global population in 1914, but has less than a tenth today. Immigration, especially from Africa and Latin America, is politically testing. Populism is on the march.

All the same, on a global scale it is hard to envisage a serious military rival to the clout of the United States and its European allies. Russia is revanchist in Ukraine, but it is also in long-term decline. China is brittle and its growth is slowing sharply. India is politically rancorous. The West's grip on the best technology and research is firm. And though Europe's economic prospects may be cloudy, American productivity leaves most competitors in the dust.

Declinists like to cite George Bernard Shaw, whose dictum on the transience of great powers jokily invoked an English village: "Rome fell. Babylon fell. Hindhead's turn will come." It is tempting to think that way. But for now, at least, it is not obvious when, if ever, the West will follow suit. ■

Johnson A language for the world

By learning English, people around the globe are changing it, too

WHAT COUNTRY does French belong to? The answer seems obvious: France, as it says on the label. But there are roughly four times as many speakers of French outside France as there are within it. Who does Portuguese belong to? You might now hesitate to blurt out "Portugal", remembering that Brazil's population is about 20 times bigger than Portugal's. Maybe Portuguese belongs jointly to them both. But then 70m people live in African countries in which Portuguese is an official language. Perhaps it belongs to them, too.

The English can be under no illusion that the language of the same name is exclusively theirs. The small matters of the other nations in the British Isles, and of the superpower across the Atlantic, make clear that it is joint property. But these countries—along with Canada, Australia and other Anglophone peoples—must at some point come to terms with the fact that, even collectively, their language no longer belongs to them. Of the estimated billion people who speak English, less than half live in those core English-speaking countries.

Every day, the proportion of English-speakers born outside the traditional Anglosphere grows. Perhaps 40% of people in the European Union speak English, or about 180m—vastly more than the combined population of Britain, Canada, Australia and New Zealand. In India, calculations range from 60m to 200m. Most such estimates make it the second-biggest Anglophone country in the world.

English-speakers pride themselves on the spread of the language, and often attribute that to an open, liberal-minded attitude whereby it has happily soaked up words from around the world. In the coming century, though, English will do more than borrow words. In these non-Anglophone countries, it is becoming not just a useful second language, but a native one. Already it is easy to find children in northern Europe who speak as though they come from Kansas, the product of childhoods immersed in subtitled films and television in English, along with music, gaming and YouTube.

Today, many learners still aim for an American or British standard. Textbooks instruct Indian English-speakers to avoid Indianisms such as "What is your good name?" for "What is your first name?", or "I am working here for years" instead of "I have been working here for years." A guide to avoiding Europeanisms has long circulated in European Union institutions, to keep French- or German-speakers from (for example) using "actual" to mean "current", as it does in their languages.

Yet as hundreds of millions of new speakers make English their own, they are going to be less keen to sound British or American. A generation of post-colonial novelists has been mixing native words and phrasings into their English prose,



without translation, italics or explanation. Academic movements such as "English as a lingua franca" (ELF) have been developing the ideology that speakers—no longer referred to as "non-native" but rather "multilingual"—should feel free to ignore British or American norms. Karen Bennett of Nova University in Lisbon says the university website has been translated using words common in southern European English—like "scientific" for "academic", or "rector" for "vice-chancellor". The appropriate local dialect is not British or American but ELF.

Given enough time, new generations of native speakers contribute not just words but their own grammar to the language they learn—from older speakers' point of view, distorting it in the process. "I am working here for years" is a mistake today, but it is not hard to imagine it becoming standard in the future in culturally confident Anglophone Indian circles.

If this disturbs you, remember that this column is written in a mangled version of Anglo-Saxon, learned badly by waves of Celts, Vikings, Normans and others until it became an unrecognisably different tongue. And take comfort in the fact that such changes usually happen too slowly to affect comprehension in a single lifetime. Written language is less volatile than the spoken kind and exerts a stabilising force.

But if language is always evolving (true to the point of cliché), the adaptations are even more profound when they come as a result of new speakers hailing from different linguistic worlds. No language has ever reached more speakers than English. It is hard to predict how they will change it, but easy to rule out the notion that they will not change it at all. In the end, it will be theirs too.

American drama

Living history

NEW YORK

August Wilson was and remains a bard of black life in America

When August Wilson first heard a recording of Bessie Smith singing "Nobody in Town Can Bake a Sweet Jelly Roll Like Mine", he wrote later, "the universe stuttered and everything fell to a new place." It was 1965, and he was a dish-washing poet of 20 with grand ambitions and a sense of injustice. In Smith's proud, mournful voice, he heard a way to hold onto the past while moving forward; to rue fate yet embrace life. The blues, he thought, "is the best literature black Americans have". Through the music he found what became his voice as a playwright.

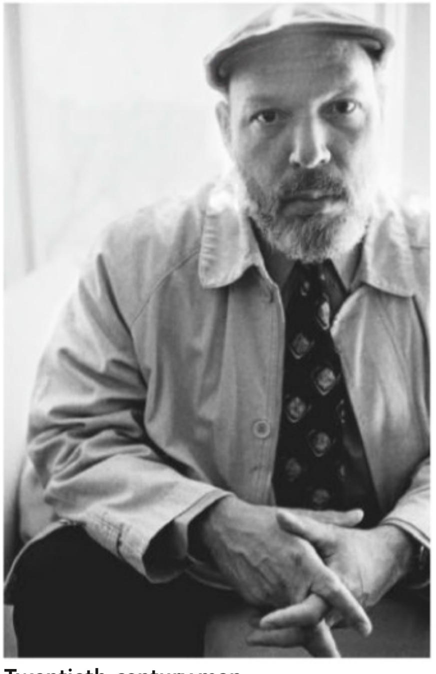
Wilson died of liver cancer in 2005, aged 60, but his plays have lives of their own. The ten parts of his American Century Cycle—which, between them, won two Pulitzers and heaps of acclaim for chronicling the black American experience in each decade of the 20th century—are still finding new audiences on stage and screen. This year, as usual, his work has been performed across America: "Radio Golf" in Philadelphia, "Fences" in Jackson, Mississippi, "Two Trains Running" in Miami. "How I Learned What I Learned", his autobiographical one-man show, recently closed in Seattle; "Jitney" comes to London in July. Meanwhile, Netflix has announced a screen adaptation of "The Piano Lesson", with John David Washington and Samuel L. Jackson reprising their roles from a Broadway hit (nominated for a pair of Tony awards at the ceremony on June 11th).

These plays endure because Wilson achieved his goal of presenting black life "on its own terms…with all its richness and fullness". Although the white world looms at the edges of these stories, it remains largely offstage. Wilson was concerned with the rituals and beauty of ordinary black Americans as they forged a culture in unpropitious circumstances. His characters are not slaves, but nor are they entirely free—denied the jobs and loans claimed by the European families who arrived in America at the turn of the 20th century. They hustle and dream, but know the game is rigged. As a frustrated musician says in "Ma Rainey's Black Bottom", which in 2020 became a film starring Viola Davis and Chadwick Boseman: "Is you gonna be satisfied with a bone somebody done throwed you when you see them eating the whole hog?"

Most of these dramas unfold in the Hill District of Pittsburgh, which, when Wilson was growing up there, was a slum known as "Little Harlem". Though he was originally named Frederick August Kittel junior after his mostly absent white German father, Wilson said he never questioned his racial identity because no one else seemed to: "All the things that were closed to Negroes at that time were closed to me." As the only black student in his Catholic high-school class, he was greeted every morning by racist invective. He dropped out of formal schooling at 15 when a teacher accused him of plagiarism, on the presumption that his essay was too good for him to have written it himself.

A song for all seasons

Wilson read everything he could at his local library, then got another education listening to the banter of community elders at a nearby pool hall. He knew he was a writer, and sensed that it was a rare job he could do without being under someone's thumb: "Nobody said, 'Hey, you can't do that.' So I felt free." He spent years scribbling poems and stories before turning to plays in earnest in his 30s. After a couple of false starts, he found his rhythm, writing "Jitney", "Ma Rainey's Black Bottom" and "Joe Turner's Come and Gone" between 1982 and 1984. He learned to sit at his desk and wait for the characters to talk to him: "I could hear the music."



Twentieth-century man

His plays forgo outrage for sadness. During the Black Power era of the 1960s, Wilson and a friend had founded a theatre troupe in Pittsburgh that aimed to "raise consciousness" with dramas that put white characters on trial and occasionally murdered them. But he came to see that he could send a stronger message by reproducing the rhythms and nuances of black life on stage, along with its slang. With his anthropological ear for the vernacular, Wilson saw his history plays as a way for black Americans to finally tell their own story. "If we're going to be pointed toward a future," he reckoned, "we must know our past."

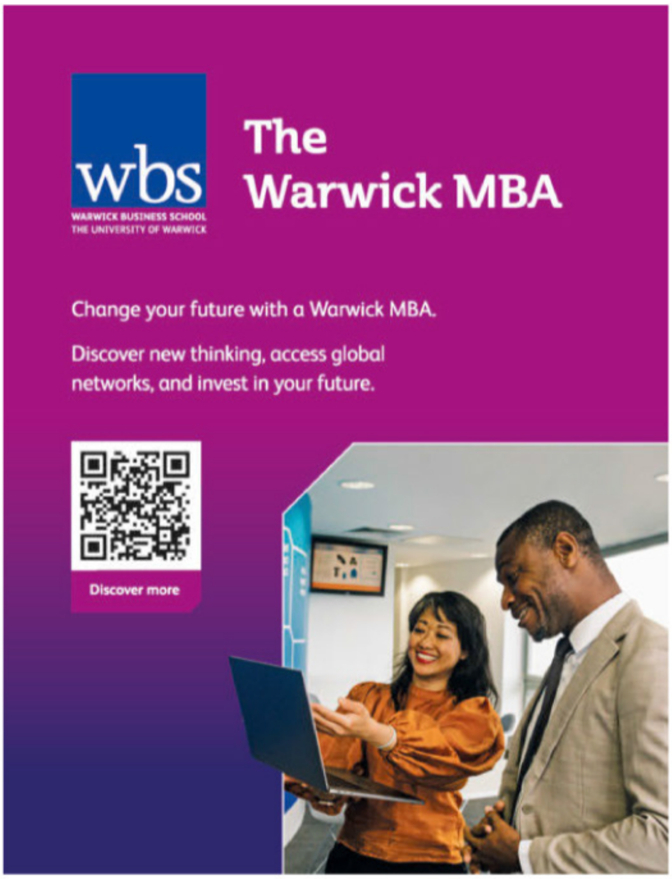
The women in his plays are outnumbered by the men, but tend to be sturdier, more sensible and more memorable. Their wisdom seems to come from resignation: relegated to lives of laundry and cooking, they know better than to dream big. The men are the tragic figures, grasping for dignity in emasculating times. "I been wandering a long time in somebody else's world," says a recently freed slave in "Joe Turner's Come and Gone", Wilson's favourite of his plays.

Although he dotes on the details of black lives, his history cycle has always enjoyed a wide following. Themes such as the trials of marriage, tussles between fathers and sons, and the hunger for redemption resonate with audiences of all backgrounds. By proving the commercial viability of African-American theatre, he opened the door for other black artists, such as Lynn Nottage and Suzan-Lori Parks, both Pulitzer-prizewinners. "I just want to say for the record: you are our king," Ms Parks told Wilson in 2005.

Appetite for his work is unabated. After acquiring the playwright's extensive archive in 2020, the University of Pittsburgh made it available this year, citing demand from scholars, historians and students. The first authorised biography of Wilson will be published this summer. Last year an arts centre opened in his restored childhood home. Denzel Washington, who directed and starred in a film version of "Fences" (2016) and was an executive producer of "Ma Rainey", plans to adapt more of his work. "It is a privilege and honour", Mr Washington has said, "to be a small part in keeping him alive."

Wilson was grateful for his success, but not surprised. He knew that he was doing something special, and miraculously finished his grand project just a few months before he died. He harnessed the raw vitality of the blues for the stage because he understood it was "life's way of talking", as Ma Rainey explains: "You don't sing to feel better. You sing 'cause that's a way of understanding life." ■


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"MAKE AN INVESTMENT IN YOURSELF THAT WILL BE PROFITABLE"
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Economic & financial indicators

Economic data

	Gross domestic product % change on year ago latest		quarter*	2023†	Consumer prices % change on year ago latest		2023†	Unemployment rate %		Current-account balance % of GDP, 2023†	Budget balance % of GDP, 2023†	Interest rates 10-yr gov't bonds latest,%	change on year ago, bp	Currency units per $ May 24th	% change on year ago
United States	1.6	Q1	1.1	1.0	4.9	Apr	3.8	3.4	Apr	-3.0	-5.4	3.7	97.0	-	
China	4.5	Q1	9.1	6.1	0.1	Apr	1.2	5.2	Apr‡§	2.5	-2.9	2.5 §§	-4.0	7.04	-5.3
Japan	1.3	Q1	1.6	1.1	3.5	Apr	2.2	2.8	Mar	3.2	-5.8	0.4	18.0	139	-9.0
Britain	0.2	Q1	0.5	-0.2	8.7	Apr	6.0	3.9	Feb††	-2.9	-5.4	4.1	216	0.81	-1.2
Canada	2.1	Q4	nil	0.7	4.4	Apr	3.3	5.0	Apr	-1.0	-1.5	3.3	47.0	1.36	-5.2
Euro area	1.3	Q1	0.3	1.0	7.0	Apr	5.7	6.5	Mar	1.6	-3.6	2.5	151	0.93	nil
Austria	2.6	Q4	-0.1‡	1.0	9.7	Apr	6.9	4.5	Mar	1.4	-2.8	3.1	158	0.93	nil
Belgium	1.3	Q1	1.6	0.5	5.6	Apr	5.4	5.9	Mar	-2.6	-4.9	3.1	152	0.93	nil
France	0.8	Q1	0.7	0.7	5.9	Apr	5.9	6.9	Mar	-1.7	-5.0	3.0	157	0.93	nil
Germany	-0.1	Q1	0.2	0.3	7.2	Apr	6.2	2.8	Mar	4.7	-2.5	2.5	151	0.93	nil
Greece	4.5	Q4	5.6	2.0	3.0	Apr	3.9	10.9	Mar	-8.0	-2.3	3.9	31.0	0.93	nil
Italy	1.8	Q1	2.0	1.2	8.2	Apr	6.4	7.8	Mar	0.1	-5.0	4.3	137	0.93	nil
Netherlands	1.9	Q1	-2.6	1.2	5.2	Apr	4.8	3.4	Apr	6.9	-2.4	2.8	158	0.93	nil
Spain	3.8	Q1	1.9	1.8	4.1	Apr	4.1	12.8	Mar	1.0	-4.4	3.5	143	0.93	nil
Czech Republic	0.1	Q4	0.4	-0.2	12.7	Apr	11.4	2.5	Mar‡	-1.7	-4.8	4.7	-2.0	22.0	4.3
Denmark	1.9	Q4	1.2	0.5	5.3	Apr	5.0	2.8	Mar	9.8	0.7	2.8	146	6.92	0.3
Norway	3.0	Q1	1.0	1.4	6.4	Apr	4.6	3.7	Feb‡‡	20.0	11.4	1.4	76.0	10.9	-12.4
Poland	0.8	Q4	16.5	0.9	14.7	Apr	13.1	5.3	Apr§	-1.3	-4.0	6.1	-46.0	4.19	2.4
Russia	-1.9	Q1	na	-2.2	2.3	Apr	7.3	3.5	Mar§	6.0	-4.4	10.9	68.0	80.3	-29.2
Sweden	0.3	Q1	0.8	0.5	10.5	Apr	6.0	7.7	Mar§	3.4	-0.3	2.4	69.0	10.7	-8.7
Switzerland	0.8	Q4	0.1	1.1	2.6	Apr	2.6	1.9	Apr	7.5	-0.7	1.1	35.0	0.90	6.7
Turkey	3.5	Q4	3.8	2.6	43.7	Apr	43.9	10.2	Mar§	-4.8	-4.4	8.8	-1413	19.9	-19.2
Australia	2.7	Q4	1.9	1.6	7.0	Q1	5.5	3.7	Apr	0.8	-0.5	3.6	33.0	1.53	-7.8
Hong Kong	2.7	Q1	23.0	3.4	2.0	Apr	2.3	3.0	Apr‡‡	7.0	-1.4	3.5	70.0	7.83	0.3
India	4.4	Q4	-3.4	6.1	4.7	Apr	5.6	8.1	Apr	-1.4	-5.7	7.0	-37.0	82.7	-6.1
Indonesia	5.0	Q1	na	4.5	4.3	Apr	4.0	5.5	Q1§	0.7	-2.6	6.4	-83.0	14,900	-1.6
Malaysia	5.6	Q1	na	3.9	3.4	Mar	2.7	3.5	Mar§	3.2	-5.0	3.9	-37.0	4.59	-4.1
Pakistan	6.2	2022**	na	1.5	36.4	Apr	30.3	6.3	2021	-2.9	-5.8	15.1 †††	212	286	-29.7
Philippines	6.4	Q1	10.0	4.8	6.6	Apr	5.7	4.8	Q1§	-3.4	-6.4	6.0	-25.0	55.8	-6.2
Singapore	0.4	Q1	-1.6	0.9	5.7	Apr	5.1	1.8	Q1	18.7	-0.1	3.0	38.0	1.35	1.5
South Korea	0.9	Q1	1.1	1.5	3.7	Apr	2.8	2.8	Apr§	2.5	-2.1	3.5	28.0	1,317	-3.9
Taiwan	-3.0	Q1	-6.4	0.4	2.3	Apr	1.9	3.6	Apr	11.1	-2.2	1.2	-4.0	30.8	-3.8
Thailand	2.7	Q1	7.8	3.8	2.7	Apr	2.2	1.0	Mar§	2.1	-2.7	2.7	-10.0	34.5	-1.1
Argentina	1.9	Q4	-6.0	-3.6	109	Apr	106.5	6.3	Q4§	-2.4	-4.6	na	na	236	-49.4
Brazil	1.9	Q4	-0.9	1.7	4.2	Apr	5.2	8.8	Mar§‡‡	-2.6	-7.6	11.6	-73.0	4.95	-2.4
Chile	-0.6	Q1	3.4	0.3	9.9	Apr	7.9	8.8	Mar§‡‡	-4.3	-1.9	5.7	-87.0	811	3.1
Colombia	3.0	Q1	5.9	1.6	12.8	Apr	11.8	10.0	Mar§	-4.2	-4.4	11.3	-1.0	4,455	-10.7
Mexico	3.9	Q1	4.5	2.1	6.3	Apr	5.5	2.8	Mar	-1.1	-3.7	8.9	29.0	17.8	11.8
Peru	-0.4	Q1	-2.2	1.7	8.0	Apr	6.8	7.5	Apr§	-2.0	-1.6	7.3	-68.0	3.68	1.1
Egypt	3.9	Q4	na	3.0	30.5	Apr	25.8	7.1	Q1§	-1.8	-6.3	na	na	30.9	-40.1
Israel	3.5	Q1	2.5	2.8	5.0	Apr	4.0	3.6	Apr	4.2	-2.2	3.9	127	3.72	-9.7
Saudi Arabia	8.7	2022	na	2.0	2.7	Apr	2.2	4.8	Q4	5.0	0.6	na	na	3.75	nil
South Africa	0.9	Q4	-4.9	0.5	7.1	Apr	5.2	32.9	Q1§	-2.0	-4.7	11.1	131	19.2	-18.2

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index May 24th	% change on: one week	Dec 30th 2022
United States S&P 500	4,115.2	-1.0	7.2
United States NAScomp	12,484.2	-0.1	19.3
China Shanghai Comp	3,204.8	-2.4	3.7
China Shenzhen Comp	2,009.5	-0.8	1.7
Japan Nikkei 225	30,682.7	2.0	17.6
Japan Topix	2,152.4	0.9	13.8
Britain FTSE 100	7,627.1	-1.2	2.4
Canada S&P TSX	19,927.7	-1.8	2.8
Euro area EURO STOXX 50	4,263.7	-1.4	12.4
France CAC 40	7,253.5	-2.0	12.0
Germany DAX*	15,842.1	-0.7	13.8
Italy FTSE/MIB	26,524.5	-2.5	11.9
Netherlands AEX	754.1	-0.5	9.5
Spain IBEX 35	9,163.5	-0.5	11.4
Poland WIG	64,117.0	0.9	11.6
Russia RTS, $ terms	1,044.0	0.4	7.6
Switzerland SMI	11,383.1	-0.5	6.1
Turkey BIST	4,424.9	-5.1	-19.7
Australia All Ord.	7,392.9	nil	2.4
Hong Kong Hang Seng	19,115.9	-2.3	-3.4
India BSE	61,773.8	0.3	1.5
Indonesia IDX	6,745.8	1.2	-1.5
Malaysia KLSE	1,409.6	-1.0	-5.7

	index May 24th	% change on: one week	Dec 30th 2022
Pakistan KSE	41,098.5	-1.8	1.7
Singapore STI	3,214.2	1.3	-1.1
South Korea KOSPI	2,567.5	2.9	14.8
Taiwan TWI	16,159.3	1.5	14.3
Thailand SET	1,536.5	0.9	-7.9
Argentina MERV	341,669.3	4.2	69.1
Brazil BVSP*	108,799.6	-0.6	-0.9
Mexico IPC	53,393.4	-3.0	10.2
Egypt EGX 30	17,090.6	1.5	17.1
Israel TA-125	1,764.2	-3.2	-2.0
Saudi Arabia Tadawul	11,236.3	-0.4	6.5
South Africa JSE AS	75,621.9	-3.5	3.5
World, dev'd MSCI	2,788.8	-1.1	7.2
Emerging markets MSCI	970.9	-0.5	1.5

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 30th 2022
Investment grade	160	154
High-yield	494	502

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

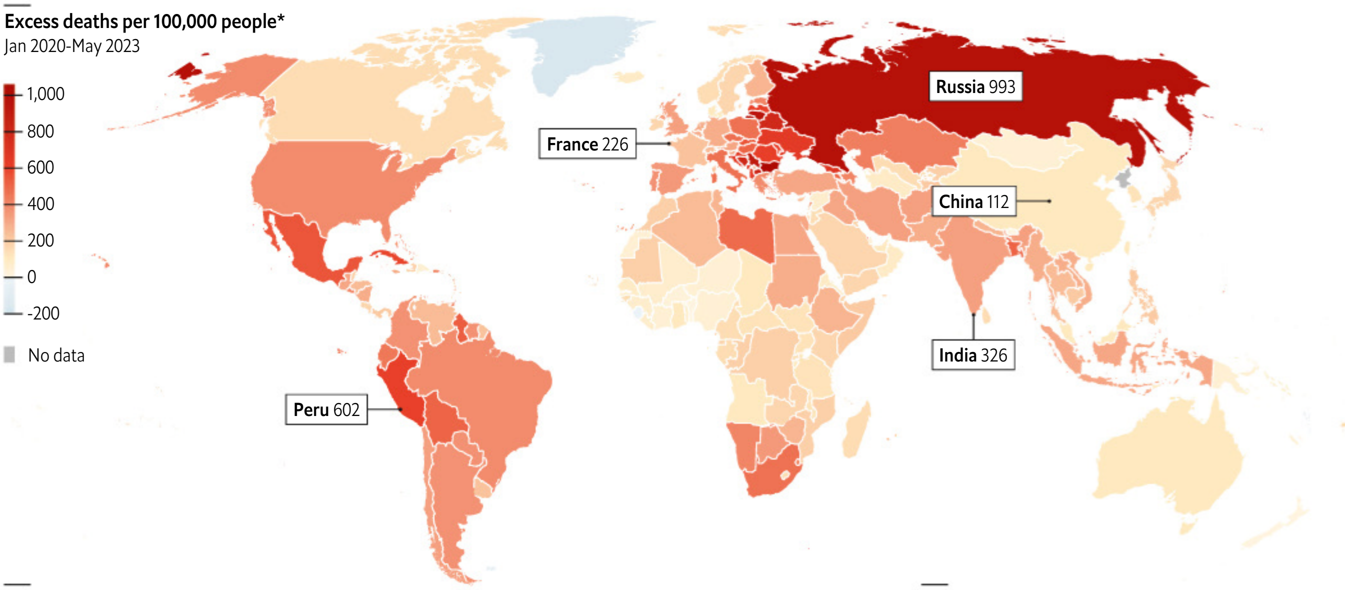
The Economist **commodity-price index**

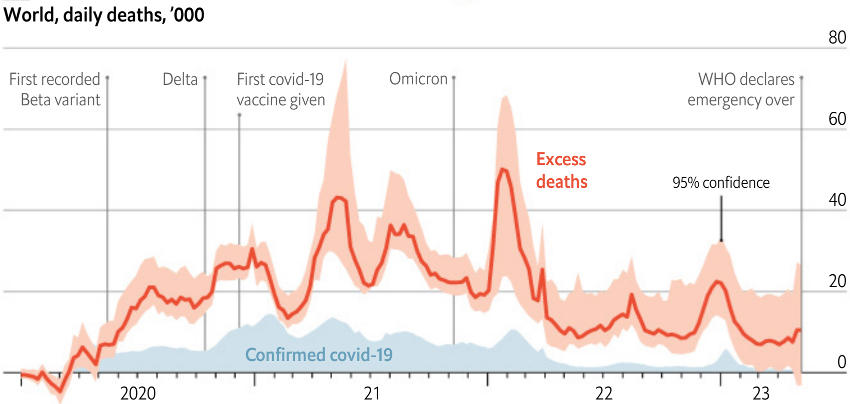
2015=100	May 16th	May 23rd*	% change on month	year
Dollar Index				
All Items	145.3	140.6	-5.1	-22.2
Food	137.2	131.1	-5.9	-20.6
Industrials				
All	152.8	149.5	-4.5	-23.5
Non-food agriculturals	107.4	107.6	-5.5	-38.8
Metals	166.3	161.9	-4.2	-19.5
Sterling Index				
All items	177.4	172.8	-5.3	-21.6
Euro Index				
All items	148.3	144.7	-3.3	-22.6
Gold				
$ per oz	1,999.2	1,967.3	-1.0	5.4
Brent				
$ per barrel	75.0	76.9	-4.9	-32.5

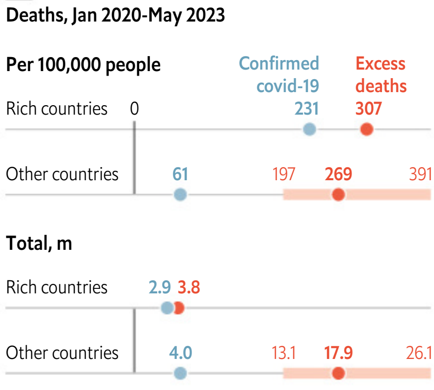
Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

For more countries and additional data, visit
economist.com/economic-and-financial-indicators

→ Excess mortality has been similar in rich and poor countries, but was unusually high in eastern Europe







*Central estimate Sources: WHO; *The Economist*

The new normal

Our model suggests that global deaths are still 5% above pre-covid forecasts

On May 5th the World Health Organisation declared an end to the covid-19 public-health emergency. Based on official mortality counts, this looked tardy. By April 2022, average weekly death tolls had already fallen to the level of March 2020.

Such tallies exclude deaths caused by covid but not attributed to it, however. A better measure is excess mortality, the gap between the number of deaths from all causes and the amount pre-covid trends would imply. For countries that do not publish their total number of deaths, we have built a model to estimate the excess.

This statistic also suggests that covid is killing at a slower, steadier pace than in 2020-21. Yet endemic covid remains surprisingly deadly. Amid high uncertainty, our central estimate for the world's current total mortality rate exceeds projections from 2019 by 5%, or 3m lives per year.

In the past year 16% of estimated excess deaths were officially attributed to covid, down from 37% in 2021. This gap has grown as deaths from covid have shifted from rich countries to poor ones. In 2020 the virus hit hardest in the rich world, where relatively old populations travel often and huddle indoors in cold weather. Such places also ramped up testing, raising the share of victims counted in official data.

But in 2021 wealthy states began to turn the tide. Because many of the vulnerable died early on, and covid survivors gained natural immunity, their populations became more resilient. They devised and distributed effective vaccines and treatments, from steroids to new drugs like Paxlovid.

Meanwhile, the disease worked its way around the world. Ultra-contagious variants reached rural areas and countries with tight border controls, like Vietnam. Even China, which often locked down entire cities, realised it could not control the virus and scrapped its "zero-covid" policy in 2022. In most poor countries vaccine take-up remains low, and weak health-care systems raise death rates for those who fall ill.

Because data on total mortality is scant outside the rich world, our model's estimates have become less precise over time. Its confidence interval for the world's current excess-death rate stretches from near zero all the way up to the estimated levels of mid-2020. However, excluding the recent surge in China, its best guess for the past year is around one of every 1m people per day. As a share of people aged at least 65, excess-death rates in rich countries are three times lower than elsewhere. But because such places have older populations, their overall mortality rate is similar.

Covid is not the sole cause of this change. Many countries' health-care systems remain strained, and cases of other diseases that went untreated in 2020-21 are raising death rates today. But if covid were indeed responsible for the full increase, it would be tied for the world's fourth-leading cause of death. At current rates, it would kill more people in the next eight years than in the past three. ■



L'enfant terrible

Martin Amis, novelist and provocateur, died on May 19th, aged 73

It began with a throb. A recognition of something he had probably buried long ago in his subconscious, which could be exposed now. A calorific infusion, announcing the next novel he had to write. The throb went into his notebook, and when he had set up the morning—a double espresso, then that first cigarette his lungs were sobbing for—he went to his desk to work.

Eleven til one were his writing hours, in biro on paper for the first draft. With computers there was no provenance, no sense of crossing-out struggle. For much of that time he was apparently doing nothing much: staring at the ceiling, trolling around, picking his nose. He was making himself receptive to shaping the destinies of his characters and himself. Where they would go, he wasn't sure; once they started creating, he couldn't stop them. Where the book was going, he hoped, was on a long shelf of titles by Martin Amis, with challenging jackets and good blurbs on their backs.

There had been 14 novels, eight non-fiction collections, two volumes of short stories. His first novel, "The Rachel Papers" in 1973, featuring a horny young man's pre-university adventures, had won the Somerset Maugham award, but after that he was not much garlanded. His books did not unite people, let alone judges. They were verbally prodigious, structurally wayward, profane and often vividly experimental. He might look, and speak, like a shy public schoolboy, but as a writer he smashed plates.

He came closest to winning the Booker in 1989 and 1991, but in 1989 two female judges objected to his portrayals of women. True, his main interest was masculinity of the toxic, lowlife, rabidly competitive sort: Lionel Asbo, violent criminal and Lottery-winner, a metaphor for moral decrepitude; ad director John Self in "Money", "200lb of yob genes, booze, snout and fast food"; or magisterial Keith Talent in "London Fields", fanatical darts-player and professional cheat. Set against these, his women characters could look tame; but not Nicola Six, also of "London Fields", with her wardrobe of alluring underwear, her joyful scheming and her unabashed enjoyment of sodomy. He had first seen her as a "murderee"; but as she sat on the sofa with her legs folded seethingly underneath her, she was arranging her murder herself.

Real victims were hard to write about. He produced two books on the Holocaust, two on Stalin; in "Time's Arrow", about a doctor in Auschwitz, time was reversed so that the doctor, in his own warped mind, restored his patients rather than destroying them. In "House of Meetings" (2006) about Stalin's gulag, he felt he had not suffered enough to tell the tale. The story itself began to beg him to set it aside, perhaps stop writing altogether; and that very thought so pained him that he managed to finish the book.

His father, Kingsley Amis, had been famous for comic novels, but he did not believe that talent was inherited. Their relationship was vexed. At times the Amis franchise was a burden; he suspected that his first novel had been published only out of "mercenary curiosity" to see how the son would compare. He read his father's books, but his father soon gave up on his, hurling "Money" across the room for "buggering about with the reader". His father wrote carefully, with hearty guffaws he heard as a child; he himself went headlong into the voice of whichever grotesque had strayed across his path. Yet they were oddly united, father and son, in respect for a good English sentence—as well as jointly believing that writing was a feasible, even fine, way to make a living.

His father envied him, perhaps. It was the besetting sin of writers. "The Information" detailed the worst horror, a man's best friend becoming more celebrated than he was. His own inner egomaniac dreaded any blazing talent coming up on his flank, even though he moved in the most sparkling and influential literary set of the 1980s and 1990s—with Ian McEwan, Julian Barnes, Salman Rushdie and "Hitch", Christopher Hitchens, his closest friend, who still lived for Trotskyist struggle. All were trying to write their own version of Trollope's "The Way we Live Now", and he had to believe he was the best at it.

The very best, he admitted, were in America, his "Moronic Inferno": loudmouth Mailer, terrifying Nabokov, "sacramental" Saul Bellow with his stevedore's shoulders. These men dared to write vast superpower novels about the whole of society. His own smaller efforts were symptomatic of Britain's decline: its aura of filthy pub carpets, its morbidly obese children, phone booths "slobberingly coated with thick red paint", London "like the insides of an old plug". Purpose had been lost along with the empire, and under Thatcher, that old witch, civility and civilisation had fallen apart. Nothing but weak left-liberalism remained to confront the ruins; that, and the scathing onslaught of his prose.

Yet he did not feel appreciated. In the mid-1990s he was crucified by the press for having asked his publisher, Cape, for an advance of £500,000 for "The Information". (Cape refused; HarperCollins obliged.) He needed the money for his divorce and to get his awful teeth fixed, the flaw in his good looks; not cosmetic, like a boob job, but essential. In 1995 he left not only Cape but his agent and his wife. Eventually he abandoned England, settling for three years in Uruguay with Isabel Fonseca, his second wife, and then in Florida. In Uruguay he found the quiet life he wanted almost always. It made a striking contrast to the jet-setting party animal of his past: cigarette in hand, Hitch at shoulder, swagger in his look.

Increasingly, he fretted about time. In "Time's Arrow" Dr Unverdorben looked steadily towards the past, away from death. But everyone, with gravid arrest, would find it waiting. It loomed as he slowly added to his shelf of books, the only particle of him that might stand the test of time. He had felt, not far into the 21st century, an outsurge of essence, an anti-afflatus, that signalled the dying of his creative powers. The exit was coming closer, time hurtling like a runaway train. The Zeitgeist had moved on, fast, from the one he knew: the one in which he had strolled leonine towards that throb only he felt, the next novel that could illuminate and eviscerate the age. ■

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